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NEW SOUTH WALES.

REPORT

OF THE

DIRECTOR-GENERAL OF PUBLIC HEALTH.

NEW SOUTH WALES,

FOR THE YEAR 1937.

PRESENTED BY THE MINISTER FOR PUBLIC HEALTH
(THE HON. H. L. PRIMROSE, M.L.A.)

Ordered by the Legislative Assembly to be printed, 23 August, 1939.

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Legislative Assembly.

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Members of the State Board of Health, 1937.

E. Sydney Morris, M.D., Ch.M., D.P.H. (President).

Cecil Purser, M.B., Ch.M.	Member,	Board of Health.
R. J. Hawkes (President, Chamber of Commerce)	do	do
William George Armstrong, M.B., Ch.M., D.P.H.	do	do
The Hon. Frank Edgar Wall, M.D., M.L.C.	do	do
Robert Dick, M.B., Ch.M., D.P.H.	do	do
Hon. A. Howie, Lord Mayor of Sydney	do	do
B. G. Littler, Esq.	do	do
Mrs. Euphemia Jean Maincke	do	do

Administrative Staff.

Director-General of Public Health and Commissioner for Venereal Diseases: E. Sydney Morris, M.D., Ch.M., D.P.H.

Senior Medical Officer of Health and Director of Tuberculosis: Hugh Gilmour Wallace, M.B., B.S., D.P.H.

Metropolitan Medical Officer of Health: John Grahame Drew, M.B., B.Ch., M.R.C.S., L.R.C.P., D.P.H., D.T.M., D.T.H., F.R.San.

Director of Maternal and Baby Welfare: Grace Johnston Cuthbert, M.B., Ch.M.

Assistant Medical Officer of Health: Bruce Robson Overend, M.B., Ch.M., D.P.H., D.T.M., D.T.H.

Secretary: Cecil James Watt.

Divisions and Branches.

The following Divisions are controlled by the Director-General of Public Health:—Maternal and Baby Welfare; Tuberculosis; Social Hygiene (late Venereal Diseases); Industrial Hygiene; Government Medical Officers for Sydney; Medical Officers of Health, Metropolitan, Newcastle and Broken Hill Districts; Microbiological Laboratories, Sydney and Broken Hill; Chemical Laboratory; Pure Food; Cattle Slaughtering; Sanitation; Publicity, etc.

The Hospital Division comprises The Prince Henry (formerly Coast) Hospital, to 31st July, 1936; The David Berry Hospital, three State Hospitals and Homes, Waterfall Sanatorium (Tuberculosis) and Auxiliary at Randwick, Strickland Convalescent Hospital, Vaucluse, and the Leper Lazaret.

Legislative Enactments.

The Minister for Health is charged with the administration of the following Acts, for promotion of the Public health, execution of which is left to the Director-General of Public Health and the staff working under his control:—Cattle Slaughtering and Diseased Animals and Meat Acts, 1902–1932; Food Preservation by Sulphur Dioxide Enabling Act, 1920; Noxious Trades Act, 1902; Private Hospitals Act, 1909; Public Health Acts, 1902–1937, as amended by Act No. 1924; Pure Food Act, 1908; Wine Adulteration Act, 1902; King George V and Queen Mary Maternal and Infant Welfare Foundation Act, 1937; and the Lady Edith Carpenter Land Vesting Act, 1937. Burials in closed cemeteries and the exhumation of bodies for the purpose of re-interment, etc., are also dealt with.

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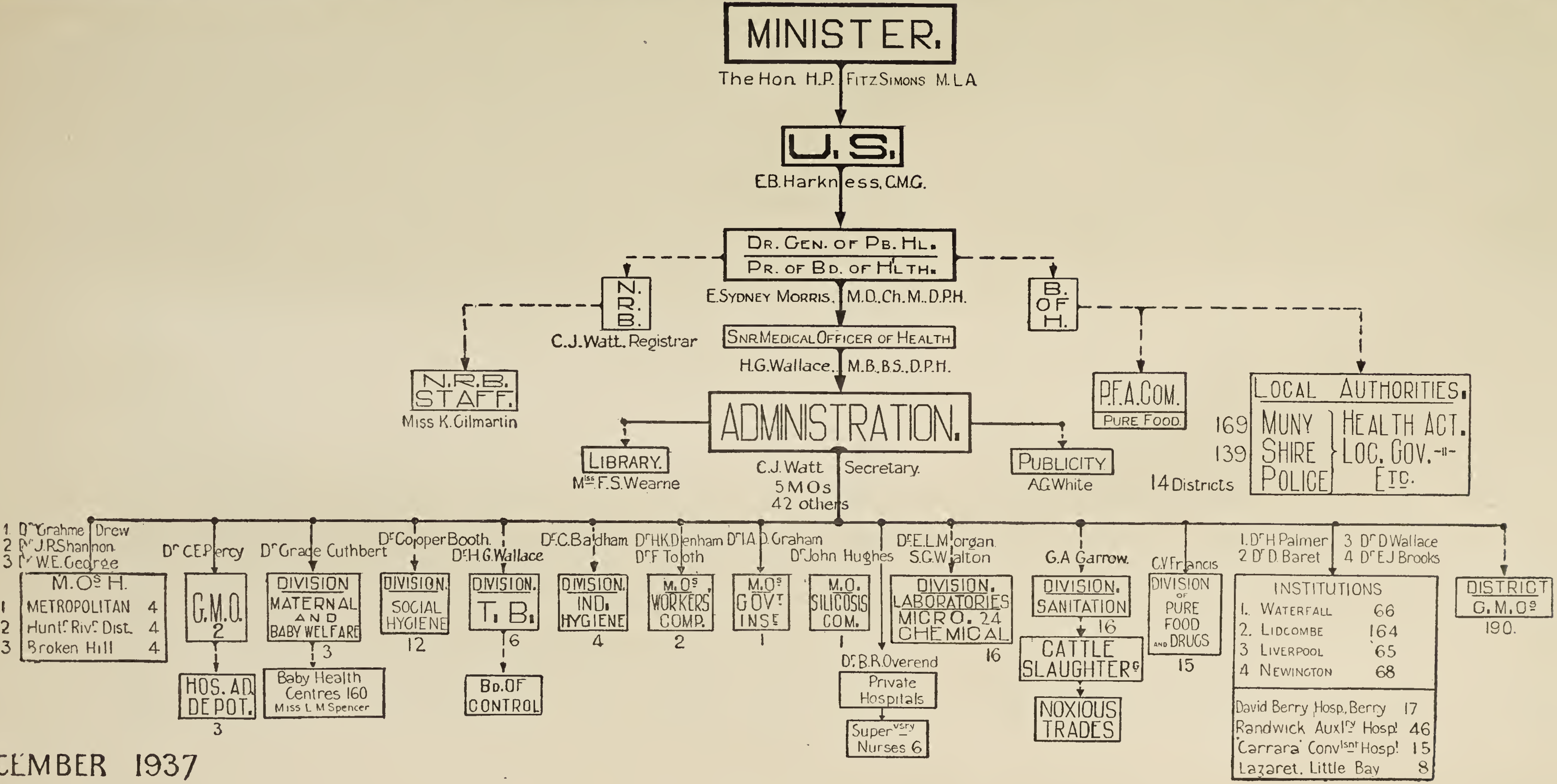
HEALTH DEPARTMENT.

OFFICE OF THE DIRECTOR GENERAL OF PUBLIC HEALTH.



DECEMBER 1937

Report of the Director-General of Public Health to the Honorable the Minister for Health (The Hon. H. L. Primrose, M.L.A.)

Sir,

I have the honour to present herewith the report on the work of this office for the year ended 31st December, 1937.

VITAL STATISTICS.

An extract from the Report of the Government Statistician on the Vital Statistics for the year 1937 is appended (p. 12), and gives the following information :—

Population.—The population of New South Wales at 31st December, 1937, was 2,710,738, and the mean population for the year was 2,694,679.

Births.—Live births numbered 47,497, and the rate (17·63 per 1,000 of population) was again slightly higher compared with 17·31 in 1936, and 16·89 in 1935. *Still births* (which have been notifiable since January, 1935), numbered 1,452.

Deaths from all causes totalled 25,235, or a rate of 9·36 per 1,000 of population, which is 6 per cent. above the average of the previous five years.

Infantile Mortality.—There were 1,932 deaths under one year of age, which gave a rate for the whole State of 40·68 per 1,000 live births. The rates for the combined metropolitan area of Sydney (703 deaths) was 38·72 per 1,000 live births, and for the Hunter River Combined District (137 deaths) 35·50. These combined districts have populations respectively of 1,304,417 (metropolitan district), and 220,890 (Hunter River District).

Of the 1,932 deaths under 1 year of age, 1,083 or 56·05 per cent. occurred under 1 week, 1,348 or 69·77 per cent. under 1 month, and 1,495 or 77·38 per cent. under 3 months.

INFECTIOUS DISEASES.

Typhoid Fever.—One hundred and eighteen cases and 18 deaths were notified. This is the lowest incidence of this disease hitherto recorded. In the Sydney metropolitan area there were 33 cases; at Broken Hill (population 29,084) 23 cases; Newcastle and Hunter River District, 7 cases. From the 244 municipal, shire and police districts which constitute the " Remainder of State " (population 1,118,579), 55 cases were notified.

Scarlet Fever.—There were 2,493 cases and 17 deaths in 1937, a decrease of 1,446 cases and 9 deaths compared with the figures for 1936. Of the 2,493 cases in 1937, 1,525 (or 61 per cent.) were reported from the metropolitan area, and 142 cases from Broken Hill.

Diphtheria.—Four thousand two hundred and forty-four cases were notified in 1937, or 2,820 fewer than in 1936. The deaths in 1937 numbered 143 (fatality rate 3·36 per cent.), and in 1936, 220 (or a fatality rate of 3·11 per cent.); 2,366 of the cases in 1937 (or 56 per cent.) were notified from the metropolitan area; and 468 (11·02 per cent.) from the Newcastle-Hunter River area.

Immunization Campaign.—The scheme in operation in New South Wales provides generally for co-operation between the State Government and the local governing bodies, the Government providing free of charge all anatoxin used, and recouping councils any cash loss sustained after they have met all expenditure incurred, and collected small fees from any parents who are in a position to contribute.

Finalised claims received from local authorities to 31st December, 1937, were for the completion of 71,242 immunizations in their respective districts. To March, 1938, finalised claims for 97,258 immunizations had been received. It was estimated that, in addition, over 20,000 children had been immunized by private practitioners, and that at 31st March, 1938, over 125,000 children had received immunizing injections during the preceding two years. The number is being steadily added to by an active immunization campaign.

Endemic Typhus Fever (Brill's Disease).—Two of the five cases notified in 1937 occurred in the North Coast area and three in the metropolitan district, two of the latter patients were employed in different sections of a large city store from which a case of typhus had been reported in 1935. Intensive rat catching was carried out in the building, and no further infection has so far been reported.

Undulant Fever.—Two cases in human beings were reported—an elderly man residing in the metropolitan area, and a nurse employed at a country private hospital.

B. abortus was present in 65 (or 8·46 per cent.) of 768 samples of milk examined in the Microbiological Laboratory during 1937. Undulant fever was proclaimed a notifiable disease under the Public Health Act, 1902, on 13th August, 1937. This action was taken by all States of the Commonwealth as the result of a resolution by the National Health and Medical Research Council. Sporadic cases of this disease occur from time to time in the various States, but the occurrence of several cases at Canberra focussed attention on the problem and the necessity for veterinary supervision of dairy herds.

In spite of the fact that *Brucella abortus* is prevalent in milk samples in the metropolitan district, cases of undulant fever are comparatively rare. It is probable, of course, that in most instances the disease is not recognised clinically.

Leprosy.—Three cases of leprosy were notified in 1937. Leprosy was proclaimed a notifiable disease on 25th February, 1938. This disease has always been notifiable in virtue of special provisions in the Public Health Act; but in order to embrace leprosy within the provisions of the regulations controlling contacts of infectious diseases it was necessary, on legal grounds, to proclaim it a notifiable disease.

A subsequent amendment of the definition of "contact" will enable this department to examine annually, or at such periods considered necessary, any person who has been exposed to infection from leprosy.

INFANTILE PARALYSIS.

Thirteen cases of infantile paralysis were notified in New South Wales between 1st January and 31st August, 1937. From 1st September to 31st December there were 56 cases (September 4, October 5, November 19, December 28). There had been a severe epidemic in New Zealand from December, 1936; in Victoria from June, 1937; and in South Australia from November, 1937.

No disease is so liable to cause public alarm at the present day as infantile paralysis. This is readily understood on account of its rapid spread throughout the length and breadth of the country, which leaves in its train numbers of children who may be paralysed for the remainder of their lives. The lack of accurate medical knowledge which would permit the disease to be controlled, the sudden, apparently indiscriminate selection of its victims, and the inability to prevent the onset of dreaded paralysis all tend to convey an idea of helplessness which may readily produce panic.

An epidemic of disease has "news value" and the daily press, if it wishes to exploit the potentialities of the situation, can readily be the means for stampeding the public. In no instance is this more true than in the case of infantile paralysis which possesses the essential qualities of mystery, dread, and anxiety on which to build a publicity campaign.

It is most gratifying, therefore, to be able to acknowledge gratefully that in the recent epidemic of infantile paralysis, the press on the whole co-operated excellently with this Department, and whilst giving news of the progress of the epidemic refrained from markedly sensational presentations of the subject.

Infantile paralysis is never entirely absent from the community though its incidence in inter-epidemic years amounts only to between 20 and 30 cases per annum. At intervals of three to five years, however the incidence increases markedly until the disease assumes epidemic proportions. In view of the experience in this State over many years, it was anticipated that an epidemic would probably occur during the last quarter of 1937, as the last previous epidemic commenced in 1934. This forecast was rendered more probable in view of the unusual, extensive, and very severe epidemic experienced in Victoria from the middle of the year, and which continued for some months in 1938.

In spite of the rapid spread of the Victorian epidemic, New South Wales remained comparatively free of the disease for some months. In an effort to prevent the transmission of infection from Victoria, the Public Health Act was amended to enable New South Wales to institute certain restrictions on inter-State travel. To this end, a proclamation was issued in August, 1937, declaring Victoria an infected area, and requiring every child under the age of 16 years who entered New South Wales from Victoria, to produce a certificate to the effect that during the period of three weeks prior to the day of departure from Victoria he had neither been in contact with, nor exposed to infection from, any person suffering from infantile paralysis, nor had attended a school which had been closed on account of the disease.

Each such child after arrival in this State was excluded from school for three weeks. In the period of approximately nine months during which the proclamation was in force, nearly 30,000 certificates were received by this Department. The relevant information contained in the certificates was forwarded to the various local authorities to whose districts the children had proceeded, so that necessary action for their isolation and exclusion from school could be taken.

The restrictions were enforced in connection with transport by road, rail, sea and air, and were still in force at the close of the year.

During November the notifications of infantile paralysis received by this Department indicated a definite increase beyond the few isolated cases which had occurred prior to this date. December showed a still higher incidence indicating that an epidemic was inevitable and that it would probably run its usual course from November to May or June.

It is not proposed to discuss the epidemic in detail in this report, since it is more appropriate to consider it in connection with the Annual Report for 1938. It is desirable, however, to mention the following salient points :—

(*a*) This epidemic proved to be the largest ever experienced in New South Wales, *i.e.*, between 700 and 800 cases.

(*b*) In spite of the heavy incidence of a severe type of the disease in Victoria where more than 2,000 cases occurred, the disease in New South Wales was of a milder type and did not spread so rapidly. This anomaly is a problem awaiting future solution. Probably two factors—the virulence of the infection and the immunity of the population—are interacting continuously. It is peculiar, however, that at a time when the Victorian epidemic was spreading rapidly and the cases were of severe type, the incidence of the disease just over the border in this State was comparatively slight, and the cases were mild in type. As these characteristics remained, in general, a feature of the epidemic in this State, it is a question whether the population of New South Wales was more immune than that of Victoria or whether the virus, for some reason, became lowered in virulence.

(*c*) The epidemic followed the usual course experienced in this State. Commencing in November, it reached its peak in February, and then rapidly declined. If the Victorian experience is to be relied upon, an epidemic which commences in the winter months is apparently liable to be more serious than one which commences in early summer.

(*d*) School closure appears to have very little, if any, advantage in controlling an epidemic of infantile paralysis. The epidemic under review rose to its peak during the school holidays, and declined after the schools had re-commenced.

(*e*) Convalescent serum was utilised infrequently in comparison with previous epidemics. It is too early to assess the efficiency or otherwise of this treatment.

(*f*) A larger proportion than usual of adults appears to have suffered from the disease.

(*g*) The appointment of a special committee—The Infantile Paralysis Consultative Council—effected very necessary co-ordination between the medical profession, hospitals, and the Public Health Department, so that a comprehensive system of efficient after-care and treatment will be in operation.

(*h*) The dangers inherent in attempts to obtain prophylaxis by spraying certain chemicals, *e.g.*, zinc sulphate into the nose were considered to outweigh any probable advantages, and on that account the proposal could not be recommended.

TUBERCULOSIS DIVISION (p. 72).

In 1937 the notified cases of pulmonary tuberculosis totalled 1,771, an increase of 399 cases on the notifications in 1936, and of 201 over 1935; nearly 75 per cent. (1,319) of the notifications were from the metropolitan area. There were 991 deaths (males 647, females 344) from pulmonary tuberculosis in comparison with 955 in 1936, and 939 in 1935. Deaths from other forms of tuberculosis in 1937 amounted to 87, or a total of 1,078 deaths from all forms of the disease; these figures show an increase of 36 in the deaths from pulmonary tuberculosis, and a decrease of 9 in deaths from other forms in comparison with 1936, when there were 955 deaths from pulmonary tuberculosis, and 96 from other forms of the disease.

In his report of the work of the Division for the year, the Director points out that tuberculosis is perhaps the major health problem of the community, as " Between the ages of 15 and 45 years, it kills more people in Australia than any other disease : it is the great producer of widows and orphans : it deprives the State of breadwinners at the period of their maximum productive capacity : it deprives the State of mothers at child-bearing ages, and so helps to reduce the already falling birth-rate, and its economic consequences can be assessed in millions of pounds annually." It is urged that efforts for combating the disease should be directed to diagnosis in the early stages of the infection, when there is a likelihood of complete recovery, and for this purpose that there must be extension of dispensary facilities and the more general use of radiology for diagnosis of suspected cases.

In addition, improved facilities are needed for after care of patients who are discharged from sanatoria, particularly for the patient with a dependent family, whose maintenance should be a matter of State or Federal concern until his capacity for earning is restored.

During the years 1935, 1936, and 1937, investigations have been made into the after-histories of patients admitted to sanatoria in New South Wales in 1930, 1931, and 1932, *i.e.*, at the expiration of five complete years from a patient's first admission to a sanatorium. This follow-up of patients has disclosed that of 1,685 persons admitted to sanatoria in 1930, 1931 and 1932, no less than 910 or 54 per cent. had died within five years of admission, viz.:—

Admitted to a Sanatorium in—	After-History Investigated.	Number of Admissions Investigated.	Number found to have Died.	Percentage of Deaths within five years.
				per cent.
1930	1935	280	190	67
1931	1936	686	346	50
1932	1937	719	374	52
		1,685	910	54

It is evident, the Director points out, that far too high a proportion of tuberculosis cases are notified in an advanced stage of disease. It is with this early (and often symptomless) case that expert guidance and advice can frequently prevent development of an infection which otherwise does not come under treatment until the disease is so far advanced that there is little hope for complete recovery.

VENEREAL DISEASES ACT, 1918 (p. 67).

This Division, in 1937, adopted the title of " Division of Social Hygiene "; hitherto it had been known as the " Venereal Diseases Division." A total of 5,612 notifications of venereal diseases were received for the year—an increase of 452 on the number (5,160) notified in 1936. This is the highest total of notifications for any year since 1927, and was due to a greater number of gonococcal infections. Notifications for syphilis totalled 997 (males, 706, females, 291), or 63 less than in 1936. There were 4,227 notifications for gonorrhoea (males, 3,576, females, 651), an increase of 490 on the total for 1936.

In the opinion of the Director of the Division, gonorrhoea is at present the major problem at the departmental (male) clinic, at which the attendances totalled 144,264 in 1937. He states that syphilis has definitely decreased; of the 253 patients in whom syphilis was detected at this clinic in 1937, only 15 (5·9 per cent.) were primary infections. The majority of syphilitic infections which were reported were old infections that had been discovered in the later years of life. In the routine examination of clinic patients it was found that 1·4 per cent. of those suffering from gonorrhoea were also infected with syphilis. Old established syphilis, the Director points out, is not a menace so far as spread of disease is concerned, although those infected may become a charge on the State through early invalidity.

In his opinion, control of the spreading of syphilis, and all venereal disease, lies chiefly in prophylaxis, and he points out that the difficulty of eradication is found to be with so many of the younger men who are too lazy or too careless to apply prophylactic measures after every risk of infection. Of former patients who returned to the Divisional Clinic in 1937, 457 had a fresh infection (7 infections were syphilitic), although all 457 knew of the importance of prophylaxis, and where it was available.

The Venereal Diseases Act has been in operation since December, 1920, and the Director is of opinion that compulsory notifications and attendances, although not completely successful, have not failed. Very infrequently is it necessary to resort to court proceedings to enforce attendance until a cure is effected; magistrates, it is found, treat default sympathetically, and impose a penalty which requires a patient by bond to attend for treatment for a specified period.

40,977 serology tests were made in the Microbiological Laboratory in connection with the diagnosis and treatment of venereal diseases, and 19,798 smears were examined for gonococci. The bulk of the specimens were submitted by the ten metropolitan clinics, at which the attendances in 1937 totalled 229,893 (males, 198,528; females, 31,365), of this number 144,264 attended at the departmental (male) clinic.

HOSPITAL ADMISSION DEPOT.

At this branch arrangements are made for admission to Metropolitan Hospitals, State Hospitals and Homes, and Convalescent Hospitals, and medical examinations are made for the various State services. Other services include medical supervision of sick police, and examination of police recruits.

MEDICO-LEGAL SECTION.

This particularly important section of investigational work for the Police Department is carried out by the Government Medical Officers in co-operation with the Government Analyst and the Principal Microbiologist.

In connection with uncertified deaths, murder charge inquiries, counterfeit coining, horse-doping, animal poisonings, rape and other charges, a total of 473 exhibits were examined in the chemical and microbiological laboratories. Toxicological examinations in 1937 comprised 97 examinations of viscera; 12 examinations of blood for carbon monoxide, and of 4 for drowning, and 33 examinations of blood and urine for alcohol. Two of the examinations made on behalf of the coroner concerned accidental deaths from percaine. One of these deaths was due to a pharmacist using percaine in dispensing a prescription for a 0·2 per cent. solution of novocaine, he being under the impression that the names percaine and procain (novocaine) were synonymous.

The other death from percaine was the result of a hospital patient swallowing some of the percaine used as a local anaesthetic during a throat operation.

MICROBIOLOGICAL LABORATORY (page 136).

A total of 84,399 pathological and bacteriological examinations were made in the Microbiological Laboratory, of which 48,148 were for tests for venereal disease.

An investigation was made concerning a further fatal case of post-operative tetanus following an operation for salpingectomy and appendicectomy.

The catgut used during the operation had been sterilised by an iodine process. Five spools of the catgut were available for examination.

Tetanus bacillus was not recovered from cultures from the operation wounds. From one spool of the catgut a sporing bacillus was recovered, but no organisms were grown from the other four spools.

INDUSTRIAL HYGIENE.

The report of this Division (p. 93) gives information of investigations made into dust hazards during 1937. In an inquiry concerning the processes of manufacture of *abrasive soaps and powders* it was found that three men whose employment had extended in one case to twenty years, and in the other two to fourteen years had contracted silicosis; another man with five years exposure did not appear to have any evidence of silicosis. Abrasive soap is a mixture of finely ground silica and soap; the abrasive powder is composed of silica, diatomaceous earth and soap powders, over 50 per cent. of the total weight being silica.

After careful investigation of the probable exposure to dust at various stages in the manufacture of the soaps and powders it was concluded that a serious silicosis hazard existed in the industry. A dust removal plant had been installed several months before these investigations were made, but in certain sections of the work where the exposure was of a continuous nature the dust in the air was still sufficient to cause a serious hazard. Recommendations were made for improvement in the exhaust ventilation, use of a vacuum brush for sweeping dust from the cutting and stamping trays and replacement of the silica and kaolin with a less dangerous dust such as pumice.

Hazards to Health from Glass Cutting.—An investigation was made concerning the possible hazards to health to which employees at a crystal glass works might be exposed from (*a*) inhalation of dusts such as silica, carborundum, glass, and lead; (*b*) fatigue due to the nature of the work; or (*c*) from eye injuries from particles of carborundum, glass, etc. Recommendations were made that certain sections of the work should not be carried on without local exhaust ventilation; and animal experiments are in progress to determine the effect on the lungs of the inhalation of fine glass dust.

Effects of Exposure to Exhaust Fumes from Diesel Buses.—Experiments were carried out to determine the hazard of exposure to carbon monoxide of the drivers of Diesel buses. From various tests made it was considered that the carbon monoxide generated by Diesel buses under the worst conditions was less than one-tenth of that generated by petrol-drawn vehicles under those conditions; and that the cabin of a Diesel bus, if it received the greater part of the fumes of an exhaust was only likely to cause a hazard to health from carbon monoxide poisoning when running uphill and repeatedly stopping and starting; and that at no time would this hazard approximate to that known to exist in petrol-driven buses.

Lead Poisoning.—A Table on p. 100 shows the occupations of ninety-four individuals examined for lead poisoning in 1937; of these thirty-three were diagnosed as having lead-poisoning with disability, and the remaining sixty-one as having no disability or as not suffering from lead poisoning. In accordance with previous experience the majority (17) of those diagnosed as having lead poisoning came from accumulator factories; other industries which furnished cases of lead poisoning were painting and paint manufacture (8), vitreous enamelling (6), and lead smelting (2). A total of 1,806 blood smears and slides were examined for medical officers in charge of factories and workshops in which the nature of the work might be a cause of lead poisoning.

Arsenic Poisoning.—Five investigations made into complaints of illness due to arsenic, concerned (*a*) a man who had been employed spraying arsenic pentoxide; (*b*) a carpenter who killed termites by dusting with white arsenic; (*c*) a man employed sieving arsenic; (*d*) a case of dermatitis in a man refining a bismuth ore containing arsenic, and (*e*) a man engaged manufacturing a sheep dip from arsenic, caustic soda and sulphur.

Ventilation and Air-Conditioning.—A resumé is given on p. 103 of investigations made during the year concerning naturally and mechanically ventilated theatres, cinemas, public halls, shops, garages and other places in the metropolitan and Newcastle districts.

The Medical Officer in charge of this Division (Dr. Charles Badham) as a member of the sub-committee on Pneumonoconiosis of the Correspondence Committee on Industrial Hygiene of the International Labour Office attended a conference at Geneva in September, 1938, when experts from many countries discuss all various problems connected with the pulmonary diseases and disabilities arising from exposure to dusts.

MATERNAL AND INFANT WELFARE DIVISION.

The number of puerperal deaths in 1937 were 233, or 59 fewer than in 1936, and represents the lowest rate hitherto recorded.

The investigation by this department into the 1,073 maternal deaths that occurred in New South Wales in the five-year period, 1929–1933, has, no doubt, had some effect in directing attention to the need of special care in obstetric practice. In 1937 the principal decreases were in the number of deaths from puerperal septicaemia (25 in 1937, and 45 and 44 in 1936 and 1935 respectively), and from illegal operations (35 in 1937, and 56 and 52 in 1936 and 1935). As mentioned by Dr. Cuthbert in her report on the Division of Maternal and Baby Welfare (p.   ) the decrease in the incidence of death from puerperal septicaemia may be ascribed principally to two factors. One factor is the favourable results obtained by early treatment of the condition by the sulphanilamides; the other is the recognition of the role played by haemolytic streptococci in causing infection. It is, perhaps, not without significance that whilst puerperal septicaemia after full-time labour has definitely decreased, no similar change has occurred in the number of cases of septicaemia following abortion and miscarriage.

This disparity may be due to the fact that haemolytic streptococci are more frequently involved in infections following full-time labour than in those after abortion or miscarriage. The cases of post-partum septicaemia due to the haemolytic streptococcus would be cured by the specific sulphanilamide treatment; whereas the infections following abortion and miscarriage caused by other, and perhaps more virulent organisms, could not be controlled by the same means.

It is regretted that there has been a decline in the attendances at the ten pre-natal clinics in the metropolitan area at which there were 3,136 attendances in 1935. In 1936 the attendances had dropped to 2,614, and 1937 to 2,324. There were also fewer attendances of expectant mothers at the Baby Health Centres, the numbers advised at the Centres being 8,710 in 1936, and 7,794 in 1937.

The responsibility of making the pre-natal clinics useful and successful depends upon the public, particularly upon the mother herself. The Director of the Division emphasises that the principal difficulty is that so few women realise the necessity for regular examination and instruction during the whole of the pre-natal period; and she points out that all recent investigations into maternal mortality and morbidity have disclosed the extremely good results obtained with the " booked " (regularly supervised) cases in contrast with those not under regular supervision. These departmental clinics are so situated as to be readily available to all mothers who are at a distance from the public maternity hospitals.

Attendances at the Baby Health Centres were 743,634 in 1937, compared with 673,236 in 1936. Thirteen new Centres were opened in 1937 and are located at Bombala, Deniliquin, Gunning, Harden, Kiama, Lockhart, Maclean, Mathoura, Molong, Oberon, The Rock, Yanco and Yenda. There was a total of 172 Centres in operation at the end of the year, of which 51 are in the metropolitan area, and 121 in country districts.

Provision for Post-natal Care.—At the present time very little provision exists for the post-natal care of a convalescent mother. It is therefore hoped to utilise the property recently dedicated for hospital purposes under the Lady Edith Carpenter Land Investing Act, 1937, for post-natal care of convalescent women and their infants.

The Pre-school Child.—Investigations are being made by the Director of the Division with a view to formulating a scheme for supervising the health conditions of the pre-school child.

FOOD IN RELATION TO HEALTH.

During the period of economic depression and the resulting unemployment which persisted for some years, there was every reason for apprehension lest a certain section of the population would show evidence of malnutrition on account of insufficient or unsuitable food.

Malnutrition would have its heaviest incidence and its most obvious results among children generally, but especially young children in the pre-school period.

Malnutrition in children does not necessarily imply an insufficient supply of food. It may be due to :—

1. Insufficient food, due to the poverty or ignorance of the parents.
2. Unsatisfactory selection of foodstuffs as regards constituents or vitamin content.
3. Some neglect of general hygiene, such as an insufficiency of fresh air and bodily exercise.
4. Some inability to assimilate food, however reasonably selected, resulting from some constitutional defect in the child, or from the presence of some diseased condition.

The actual definition of malnutrition—that is, what degree of departure from normal health standards justifies the diagnosis of malnutrition in a child, has given rise to considerable discussion for many years.

Any standard—normal or abnormal—must be applied and interpreted by an individual observer, who, in spite of every desire to be impartial and objective in his attitude may draw conclusions at variance with those of another equally competent observer.

So many factors are involved in this apparently simple question that there will always be room for considerable difference of opinion regarding details.

In spite of these limitations, however, it is practicable to form a definite judgment on the state of the nutrition of the population as a whole and to assess, with reasonable accuracy, the findings of any sectional survey of the community. Such assessment will at least enable us to obtain an indication of the direction in which efforts for improvement should be made.

Since 1936, the Commonwealth Advisory Council on Nutrition has published five reports which contain much valuable information concerning nutrition generally and on the nutrition of the population in special areas of certain States of the Commonwealth. The views and findings of the Council deserve serious consideration, and the following comments, based on the various reports, have special significance for the State of New South Wales.

In its first report the Council states :—

> " Concerning the general state of nutrition of the Australian people, it can be said that no evidence is available to the Council of any general or gross under-nourishment of the population. All the evidence available points to the conclusion that, speaking generally, the people of Australia are, by contrast with the older and more densely-populated countries, well-nourished and well-developed. To this general statement, however, certain exceptions must be made."

One definite exception to that general statement has been ascertained and has been shown by Dr. F. W. Clements in the Fourth Report to comprise somewhat more than one-fourth of the whole area of New South Wales.

It is probable that this area is not the only exception in this State, and that, if surveyed, the whole of the Western Division would show similar conditions.

The area surveyed by Dr. Clements is limited by a line drawn through Dubbo and Broken Hill on the south, the meridian through Dubbo on the east, and the South Australian and Queensland borders on the west and north respectively.

> " All non-railway towns and one small railway village within the area were visited. In addition, the survey was extended to include the mining town of Cobar."

It will be seen that the settlements for the greater part are isolated, lacking railway communication, and situated unfavourably in regard to climate.

Dr. Clements has divided his survey of children into three sections, owing to the variation in local conditions, as follows :—

(1) Cobar and Wilcannia ; (2) all other settlements ; (3) selectors' children living on pastoral properties.

COMPARISON BETWEEN COBAR AND WILCANNIA.

A comparison of the incidence of nutritional anaemia, undiagnosed malnutrition, and rickets in Cobar and Wilcannia is shown in the following table :—

TABLE 34.—A Comparison between Cobar and Wilcannia.

Type of Malnutrition.	Cobar (1).	Wilcannia (2).
Nutritional Anaemia	6·8	6·06
Rickets	8·6	0
Undiagnosed	7·2	3·03

Figures represent percentage incidence in the child community of each town. (1) 221 children examined. (2) 66 children examined.

> " It will be seen that the incidence of nutritional anaemia is almost the same in the two towns, whilst rickets and undiagnosed malnutrition are both more evident in Cobar.
>
> " These figures tell the story of the two communities. Wilcannia has a relatively fixed population, dependent upon the grazing industry, with the majority of the families owning a few goats. In addition, more cows are kept per head of population than in Cobar, where, until recently, the uncertain conditions prevailing in the mining industry had kept business people from investing money in the town.
>
> " The type of man who follows mining is generally more unstable, rushing from mine to mine as he hears stories of their wealth. All this is reflected in the nutritional development of the child population."

Survey of All Other Settlements.

"In the smaller towns 362 were examined. Of these 270 were school children and 92 pre-school. The response amongst mothers of pre-school children was excellent, and in most centres approximately 95 per cent. of the total child population was examined. Of the 362 children examined, 106 (29.2 per cent.) were observed to be suffering from unsatisfactory nutrition."

TABLE 37.—Percentage Distribution of Each Type of Malnutrition—Smaller Towns, Western Plains and Trans-Darling Area, New South Wales.

Type of Malnutrition.	Number.	Percentage of Total Cases of Malnutrition.	Percentage Occurring in Child Community.
Nutritional Anæmia	31	29·2	9·1
Active Rickets	24	22·6	6·8
Old Rickets	21	19·8	5·8
Chronic Infection	12	11·3	3·4
Undiagnosed	18	17·0	4·1
Total	106	99·9	29·2

Survey of Selectors' Children.

In this group 87 children were examined. Of these only 4 were diagnosed as suffering from nutritiona anaemia, and 8 showed some indication of having suffered from rickets at some previous period.

Dr. Clements points out that conditions on selectors' properties are vastly different from those prevailing in the towns. Milch cows are kept upon these properties, and almost all have small kitchen gardens.

A summary of the principal findings of the survey throughout the whole area may be stated as follows :—

(1) Amongst 736 children examined, the nutrition was unsatisfactory in 175, or 23·7 per cent.

(2) The effects of rickets were observed in 64 children, or 8·7 per cent. of the total child population. This figure is much higher amongst the children living in the smaller and more remote settlements.

(3) Careful searching failed to reveal one case of even border-line scurvey.

It is evident that a considerable number of children in the far-west portions of the State are not being properly nourished, and this constitutes a problem of outstanding importance.

The actual severity of the malnutrition is not the principal question. Even if the malnutrition be slight, even though it may have no lasting detrimental effect on the subsequent development of the children concerned, its incidence throughout a large area of the State, and in almost all sections of that community, demands serious attention. In this connection it should be carefully noted that the survey of the smaller settlements embraced about 95 per cent. of the total child population. The survey was, therefore, wide, and represents not so much a sampling as an assessment of the whole population.

The evidence available goes to show that the foods which are lacking are the "protective" foods rich in animal protein, vitamins and minerals, especially milk, dairy products (cream, butter, cheese), fruit and vegetables, whole-wheat bread and eggs.

Such essential foods are not readily available in the area under consideration, and, if available, are costly. It is to be deplored that from 20 to 27 per cent of the children in 215 families received no protective foods whatever in their diets.

It is doubtful whether poverty or financial distress underlies the unsatisfactory nutrition of the children in question. It appears rather that owing to difficulties of transport and climatic conditions, which prevent the growing of animal fodders and of vegetables, the residents become accustomed to the lack of food variety, and assume that the position is inevitable and unalterable.

This, in turn, breeds an attitude of indifference, so that it is difficult to spread information regarding the essential requirements of a satisfactory diet.

Proposals for Improvement.

(*a*) *Education.*—Any scheme for control of the present unsatisfactory position implies education of the mothers of families particularly, and all women and girls generally, in the fundamental facts of adequate nutrition.

It is useless, however, to attempt an educational campaign directed exclusively towards instruction in the principles of nutrition. The foods whose consumption will have to be advocated are not readily available at the present time, and until they are available attempts to popularise them will be futile.

Dr. Clements, in discussing the difficulties caused by indifference, refers to the activities of the Far-West Children's Health Scheme in the following terms :—

> "These services include advice to mothers upon infant feeding and care; the transportation of necessitous and urgent cases to medical attention . . . I wish to especially refer to the band of trained nurses who regularly travel through allotted areas of the Far West, either by special railway car or by motor cars. At each town these nurses are available to offer advice to mothers on infant feeding.
>
> "Unfortunately, I met numbers of mothers of puny babies who had failed to avail themselves of these services. The nursing sisters had ceased to visit a number of villages because of the indifference of the mothers and the consequent lack of attendance."

This attitude of indifference is, of course, well-known to all workers in the preventive field, and although not insuperable, will only be overcome by persistent efforts over a long period.

(*b*) *Provision of Milk.*—Except in specially favourable spots, it is difficult to maintain a cow in these out-back areas. And yet it is essential that an adequate supply of milk should be available if the children are to be satisfactorily nourished.

It appears that the only practical solution of the problem is to encourage the keeping by individual families of well-bred goats.

Only by such means will it be possible to reduce the incidence of rickets in the Western Division of the State, an incidence which has reached, in pre-school children, the disquieting proportion of 25 per cent.

(*c*) *Provision of Fruit and Vegetables.*—During a few months in the year it may be possible in certain localities to grow vegetables, but owing to local conditions such supplies must always be sporadic. It is essential, therefore, that a continuous and adequate supply be facilitated from productive areas of the State.

It is worthy of note that not a single case of scurvy was discovered in the course of the survey. This immunity is considered to be due to the consumption of potatoes and pumpkin, both of which are sources of vitimin C. These two vegetables are not damaged by transport to the same extent as many other varieties of fruit and vegetables, but a still greater variety of vegetable products could, no doubt, be assured by preferential transport rates. It may then be possible to transfer the comparative abundance of favoured portions of the State such as the Irrigation Area to isolated districts, where the need is so great.

The problem of the supply of milk, fruit, and vegetables to the districts under review is, at the time of writing, under consideration by the Departments of Agriculture and of Health.

If a solution of this aspect of the problem can be found it will be possible to institute, with reasonable prospects of success, a campaign for control of the present situation.

In concluding these comments, it is desirable to stress the fact that the malnutrition in the Western Division of the State must not be considered to be representative of the State as a whole.

This may seem so obvious as not to warrant mention. Unfortunately, the figures obtained in this survey have been quoted overseas, as applying to the State generally, so that this warning may not be amiss.

A further point which might profitably be mentioned is that the condition of rickets ascertained during the course of this survey is not rickets of gross degree such as exists in large cities of the old world. Our cases were diagnosed as rickets by clinical and radiographic examinations, but most reliance was placed on the radiographic examination of the epiphysis of the wrist. This may be regarded as a very searching refinement; on the other hand, it may be regarded as a means for ascertaining the slightest indication of rickets or of metabolic processes liable to favour the development of that condition. It may be definitely asserted that florid rickets of the usual clinical type which occurs in Europe is extremely rare in Australia.

SUPERVISION OVER FOOD AND DRUGS.

A total of 36,861 samples were examined in the Chemical Laboratory in 1937, of which 34,569 were samples submitted for the purposes of the Pure Food Act.

Milk Samples examined totalled 25,903, of which 17,896 were collected in the metropolitan area, 0·89 per cent. of these samples were found to be adulterated; of 3,204 country milk samples examined, 4·55 per cent. were adulterated; and of 4,803 samples submitted by the Milk Board, 1·31 per cent. were adulterated.

Addition of Preservatives to fresh meat, including tripe and brains : 8,192 meat samples were examined in the Chemical Laboratory, and it was found necessary to institute 220 prosecutions and issue 149 warnings for use of prohibited preservatives. Fines and costs imposed amounted to £500.

Prosecutions were successfully instituted against butchers for selling as smoked mutton legs of mutton that had been artificially coloured.

As the result of inspections at the Municipal Poultry Markets, over 1,800 birds offered at auction were destroyed as unfit for human consumption.

Fancy " Food " Names.—There is a growing tendency on the part of manufacturers to use misleading fancy names for food mixtures; and during the year it was found necessary to restrict use of such terms as " Cream," " Jelly Cream," " Butter," " Milk Jelly Crystals," etc.

PURE FOOD REGULATIONS.

The formulation of a number of new standards and amendment of various regulations necessitated a revised issue of the Pure Food Regulations, which were published as a supplement to *Government Gazette* No. 140 of 23rd September, 1937; amendments were published in *Government Gazette* No. 145 of 1st October, and No. 153 of 15th October, 1937.

The revision included a number of important amendments in connection with the hygienic handling of foods, and the control of local trading conditions such as premises, equipment, appliances, vehicles, etc.

Clause 4 of Regulation 77 prohibits the addition of food packages of metallic ornaments and similar substances liable to cause contamination.

Enamel Ware.—A standard issued excludes the use of poisonous glazing materials in the manufacture of enamel ware.

Quackery and Patent Medicine Sales.—Costly advertising campaigns are being conducted by several firms, who claim special merits for the particular patent medicines they are vending. Misleading statements continue to be made by radio broadcasts concerning many of the preparations offered for sale.

SECTION II.—REPORTS OF THE MEDICAL OFFICERS OF HEALTH FOR THE METROPOLITAN COMBINED DISTRICT OF SYDNEY, NEWCASTLE AND HUNTER RIVER COMBINED DISTRICT, AND BROKEN HILL DISTRICT.

METROPOLITAN COMBINED DISTRICT.

In presenting his second review of the health conditions of the metropolitan area of Sydney, Dr. Grahame Drew briefly reviews the vital statistics for 1937.

The estimated population of the metropolitan area at 31st December, 1937, was 1,304,417. Live births registered totalled 19,539, equivalent to a rate of 14·52 per 1,000 of population. Deaths registered totalled 13,915, which gave a rate of 10·34 per 1,000. Probably due to the increasingly older age groups in the population, the death rate has shown a gradual annual rise from 9·02 in 1932 to 9·88 in 1936, and 10·34 in 1937.

Deaths of children under 1 year totalled 748, giving a rate of 38·28 per 1,000 live births, as opposed to 41·60 in 1936.

There was an appreciable decline in 1937 in the incidence of diphtheria, scarlet fever, and typhoid fever.

The immunization campaign for prevention of diphtheria is being actively continued, and it is pointed out that the scheme, which is in operation in conjunction with local authorities, is a very generous one, as it requests the municipal councils to exercise their privileges for the protection of the public health at no cost to the councils themselves.

Infantile Paralysis, which had been epidemic in New Zealand from December, 1936, and in Victoria from June, 1937, began to show an increased incidence in New South Wales from September. Owing to the severity of the Victorian outbreak, measures to limit spread of infection into this State were taken by the passing of a short amendment to the Public Health Act, under which, authority was obtained to impose restrictions upon children entering New South Wales from Victoria; these restrictions are detailed in the Report (p. 107).

Sanitation.—In reviewing the general sanitation of the metropolitan area, attention is directed to the need that exists for some of the councils to increase their inspection staffs. In many districts house to house inspections, which it is pointed out should be one of the most important of an inspector's regular duties, is neglected for the carrying out of every-day routine office work.

Another matter which Dr. Drew considers should receive greater attention is the supervision of holiday camps, many of which he points out are often deficient in adequate water supplies, sanitary conveniences and cleaning services.

Attention is also directed to the need for improving the standard of garbage removal services, particularly by the use of covered waggons; also to the need of improvements in methods of disposal of garbage. Where refuse is used for reclamation of waste land, it should be by "controlled tipping," and the tip face regularly covered with 6 inches of clean earth, in order to keep the depot free from offensive odours. Groups of councils are urged to have their scavenging districts zoned in order to arrange jointly for construction of an incinerator for disposal of the refuse from the zoned area.

Another problem which calls for urgent attention is Sydney's rat population. Dr. Drew points out that the duty of keeping premises free of rats devolves as a first responsibility on the owner or occupier of premises, irrespective of whether the premises are used for household or for trade purposes. A conference of representative authorities was called to decide upon the active measures that must be put into operation to overcome the "menace of the rat"; and an outline is given of the active measures which it is considered should be promptly taken.

Activities under the 1937 amendment to the Housing Act are discussed, and it is pointed out that the ideal will not have been attained until the necessary machinery is available to enable the Health Authorities to prescribe an area for demolition and rebuilding, in addition to the issue of closing orders or demolition certificates for individual houses unfit for occupation.

Swimming Baths.—Regular inspections have been maintained throughout the year, and chemical and bacteriological examination of water samples have shown a satisfactory standard of purity, with the exception of samples from the Domain Baths, where there is difficulty in avoiding pollution of the baths owing to the close vicinity of shipping. It is advocated that provision should be made there for an "Olympic Pool" similar to that provided at North Sydney.

HUNTER RIVER COMBINED DISTRICT.

On p. 112, Dr. J. R. Shannon presents his first annual report on the health conditions of the Hunter River Combined Sanitary District.

At 31st December, 1937, the estimated population was 220,890, and the mean population 219,610. Live berths for the year numbered 3,859, equivalent to a rate of 17·57 per 1,000 of population. Deaths at all ages numbered 1,961, equivalent to a rate of 8·93 per 1,000 of population. There were 137 deaths of infants under 1 year, which gave a rate of 35·50 per 1,000 live births.

It is of interest to compare the vital statistics of the Hunter River District (population 220,890) with those of the State of Tasmania (population 235,059). In Tasmania the births for the year numbered 4,581, equivalent to a rate of 19·84; deaths totalled 2,387, equivalent to a rate of 10·34; there were 227 deaths of infants under 1 year, equivalent to a rate of 49·55 per 1,000 live births.

In the Hunter River District the immunization campaign against diphtheria was continued during 1927, and a total of 3,347 children received protective treatments; 2,020 of the children were immunized at the Central Clinic established at the Newcastle General Hospital; 671 at Cessnock; 410 at West Maitland, and 246 at Lake Macquarie.

GREATER NEWCASTLE.

Attention is directed in the Report to the provisions of the Greater Newcastle Act, to which Royal assent was given on 15th December, 1937. Under the Act, some 110,000 persons in the city of Newcastle and the ten adjacent municipalities of Adamstown, Carrington, Hamilton, Lambton, New Lambton, Merewether, Stockton, Wallsend, Waratah, and Wickham, and parts of the shires of Lake Macquarie and Tarro become residents of *Greater Newcastle.* The new Act dissolves the Newcastle District Abattoir Board, and transfers its functions to the Greater Newcastle Council.

Dr. Shannon expresses the opinion that the new Act should tend to better health administration throughout the district, particularly as it makes the services of trained health inspectors available to upwards of 30,000 residents who hitherto were without those services.

A commencement was made by the Medical Officer of Health in 1937 for a complete and comprehensive survey of the whole of the Combined Sanitary District, a work of very considerable importance, but very little progress was made owing to pressure of other duties and the limited staff available.

Attention is directed to the danger of mosquito-borne disease in the Newcastle district owing to the extensive area of the Hexham swamps in the Greater Newcastle District. Dr. Shannon points out that Newcastle, from an epidemiological point of view, is a tropical port, and the question of mosquito control there is a much more important undertaking than in Sydney; this has been demonstrated during epidemics of dengue fever.

In connection with supervision of private slaughtering establishments, a recommendation is made for amendment of the Cattle Slaughtering and Diseased Animals and Meat Act to provide for the indelible stamping of all meat inspected in the district, and the prohibition of sale of unstamped meat in those districts where there is provision for inspection.

BROKEN HILL AND DISTRICT.

The Medical Officer of Health reports that the population of the district was 29,084 at 31st December, 1937. There were 604 births during the year, and the deaths totalled 289.

Throughout the year the health conditions of Broken Hill City were satisfactory. For the last five years there has been a particularly low incidence of infectious diseases at Broken Hill.

SECTION III.—STATE HOSPITALS.

The institutions coming under this section are the Lidcombe, Liverpool and Newington State Hospitals and Homes; David Berry Hospital (Berry); Strickland Convalescent Hospital for Men and Women, "Carrara," Vaucluse, the Waterfall Sanatorium (Waterfall), and Auxiliary for advanced cases of Tuberculosis at Randwick, and the Leper Lazaret at Little Bay.

At the Lidcombe State Hospital and Home for Men in 1937 there was a daily average of 1,721 persons of whom 928 were in the Hospital division, 767 in the General (Home) section, and 26 (mainly children suffering from diphtheria or scarlet fever) in the Infectious wards.

In the Liverpool State Hospital and Home for Men 1,659 patients were treated, 921 (males) in the State Hospital and Home; and 738 (males and females) in the district wards. Out-patients' attendances totalled 14,256. There was a daily average of 823 patients resident throughout the year.

Newington State Hospital and Home for Women had a daily average of 605 women resident throughout the year. The admissions to hospital totalled 1,015.

Strickland Convalescent Hospital for Men and Women, "Carrara" Vaucluse, had a daily average of 52 women and 27 men in residence throughout 1937. Many of the patients are admitted from the metropolitan and suburban hospitals after serious operations or other illnesses, and improve markedly in health during their stay at "Carrara."

At the Waterfall Sanatorium, where there is a total of 428 beds, 900 patients suffering from tuberculosis received treatment in 1937. In his interesting review on the work of the year the Medical Superintendent (Dr. H. W. Palmer) refers to the need for additional accommodation for advanced cases being made available at the Auxiliary at Randwick, and to the importance of early diagnosis as the basal factor in all plans for prevention of infection, successful treatment of the disease, and its ultimate control.

Leper Lazaret, Little Bay.—Three persons who were found to be suffering from leprosy were admitted to the Lazaret in 1937, and 4 persons under treatment there died. The number under treatment at 31st December was 13 (9 males and 4 females).

NEW LEGISLATION.

In addition to the Public Health (Amendment) Act, 1937, two other Acts relating to the public health were passed by Parliament.

The King George V and Queen Mary Maternal and Infant Welfare Foundation Act, 1937, establishes a fund of more than £32,000, the income from which will be utilised " in the work of investigation and research into the causes and treatment of maternal and neo-natal morbidity and mortality, and for the encouragement of research and post-graduate teaching in relation to maternal and neo-natal welfare." The members* of the Foundation have invested the funds, and, as income therefrom becomes available, will take steps to encourage research in accordance with the provisions of the Act.

The Lady Edith Carpenter Land Vesting Act, 1937, vests in the Government a property at North Sydney for utilisation for maternal and infant welfare. It is probable that when necessary alterations are effected the premises will be used for the purposes of a post-natal convalescent home and clinic. This will serve a very useful purpose, as suitable accommodation for post-natal cases is not available.

AMENDING LEGISLATION.

The need for a comprehensive amending and consolidating Public Health Act has been stressed on numerous occasions. A draft Bill was submitted more than two years ago, but has not yet been presented to Parliament. Adverse comment by Coroners on several occasions regarding the lack of control of cyanide fumigation, which has caused a number of deaths, has emphasised the shortcomings of our existing legislation. A modern Public Health Act is essential for future progress, and it is sincerely hoped that steps will be taken to place this State on a basis comparable with other States and countries.

It is anticipated that in the coming year the Pure Food Act, 1908, the Private Hospitals Act, 1908, and possibly the Venereal Diseases Act, 1918, will be amended in certain directions which experience has shown to be necessary in the public interest.

Publicity.—Daily broadcasts on health matters were given throughout 1937. New editions of the Departmental Health Booklets were issued and widely distributed. Attractive new posters were prepared, and are on display throughout the State on railway hoardings, at public offices, etc. Health motion pictures continue to be shown featuring the work of the Department, particularly the work of the Maternal and Baby Health Centres, " Tresillian " Homes, and Anti-Tuberculosis Clinics.

MEDICAL STAFF CHANGES.

Appointments.

Dr. J. R. Shannon was transferred from the Head Office Staff to the position of Medical Officer of Health, Newcastle, on 21st December, 1936.

Dr. H. K. Denham, formerly Medical Superintendent, Newington State Hospital and Home, entered on duty as Chief Medical Referee, Workers' Compensation Commission, on 12th April, 1937.

Dr. E. J. Brooks was transferred from the Government Insurance Office, to the position of Medical Superintendent, Newington State Hospital and Home, on 12th April, 1937.

Dr. I. A. D. Graham took up duty as Principal Medical Officer, Government Insurance Office, on 12th April, 1937.

Dr. G. J. Cuthbert was appointed as Director of Maternal and Baby Welfare on 12th August, 1937.

Drs. S. H. Hankins and A. J. Geoffroy entered on duty as Medical Officers attached to Head Office Staff on 7th and 19th July, 1937, respectively.

Retirements.

Dr. R. M. McKay retired from the position of Chief Medical Referee, Workers' Compensation Commission, on 28th April, 1937, after more than 20 years' service.

Resignations.

Dr. E. L. Sandford-Morgan resigned her position as Director, Maternal and Baby Welfare, during May, 1937, as she desired to take charge of similar work in South Australia.

ASSISTANCE FROM OTHER DEPARTMENTS AND ORGANISATIONS.

The work of this office has been very materially lightened throughout the year by the valuable assistance received from other public departments, and I desire once again to place on record my grateful thanks for the co-operation and help afforded, particularly by officers of the Commissioner of Police, the Government Statistician, Crown Solicitor, Government Printer, and the Departments of Local Government and Public Works, Lands Department, and the Department of Agriculture.

Assistance rendered by the Country Women's Association in connection with Baby Health Centre extensions has been invaluable, and their co-operation is deeply appreciated. I also wish specially to thank the " Smith Family " and the many other kindly citizens who have taken part in organising the many entertainments that have been given at the State Hospitals and Homes throughout the year, and also for their assistance in providing welcome gifts and good cheer for the inmates at Christmas.

Grateful thanks are also tendered to the proprietors of many picture theatres for their co-operation and assistance in the display of departmental films.

In conclusion, I must acknowledge, with sincere gratitude, the loyal co-operation and efficient assistance extended to me by all sections of the staff throughout the year.

E. SYDNEY MORRIS,
Director-General of Public Health.

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* Dr. E. Sydney Morris (Director-General of Public Health); Prof. J. C. Windeyer (Prof. of Obstetics, Univ. of Sydney); Dr. H. H. Schlink (Lecturer in Obstetrics and Gynæcology, Univ. of Sydney); Sir Henry Yule Braddon; Dr. Margaret Harper; Mrs. Minnie M. Gates; Mrs. Catherine Winifred Dwyer.

Extract from the Report of the Government Statistician, Mr. T. Waites, on the Vital Statistics of New South Wales for the year 1937.

Population.—The population at the end of 1937 was 2,710,738, of whom 1,368,505 were males and 1,342,233 females, the proportion being 102 males to 100 females. During the year the population increased by 29,002, or 1·08 per cent. Of this increase the excess of births over deaths accounted for 22,262, and the excess of arrivals over departures for 6,740. The mean population was 2,694,679.

Live Births.—The total number of live births was 47,497, equivalent to 17·63 per 1,000 of population, which is 4 per cent. above the average of the previous five years. Of this number, 24,212 were males and 23,285 females, the proportion being 104 males to 100 females.

Dividing the State into the Metropolis and Remainder of the State, there were 18,158 births in the former, and 29,339 in the latter, corresponding to rates of 14·28 and 20·62 respectively.

Stillbirths.—The number of stillbirths registered was 1,452 (846 males and 606 females), which is 2·97 per cent. of all births, live and still, and equal to 0·54 per 1,000 of population.

Deaths.—The deaths during the year numbered 25,235, equivalent to a rate of 9·36 per 1,000 of the population. This rate is 6 per cent. above the average of the previous five years.

The total includes 14,347 males and 10,888 females, equivalent to rates of 10·54 and 8·17 respectively per 1,000 of population. The rate in the metropolis was 10·36 per 1,000, and in the Remainder of the State 8·48.

Of the 25,235 people who died during the year 2,532 were under 5 years of age, 10,801 were aged from 5 to 64, and 11,902 were 65 and over. The rates per 1,000 living in the main groups under and over 5 years were 11·72 and 9·16 respectively, as compared with 9·05 and 8·62, the average of the previous five years.

Infantile Mortality.—The number of children under 1 year of age who died was 1,932, equal to 40·68 per 1,000 live births. To this total the Metropolis contributed 703, or 38·72 per 1,000 births, and the Remainder of the State 1,229, or 41·89 per 1,000 live births. The rate for 1937 is 3 per cent. below the average of the previous 5 years. Of the deaths under 1 year of age 1,083, or 56 per cent., occurred under 1 week, 1,348, or 70 per cent. under 1 month, and 1,495, or 77 per cent., under 3 months.

Causes of Death.—Of the deaths during the year, the most important causes were as shown in the following statement, which, for purposes of comparison, also gives the average number of deaths during the preceding 5 years, due allowance having been made for increase in population.

Causes of Death.	Number, 1937.	Average Annual Number, 1932-36. *	Increase (+) or Decrease (—) in 1937.	Causes of Death.	Number, 1937.	Average Annual Number, 1932-36. *	Increase (+) or Decrease (—) in 1937.
			per cent				per cent
Typhoid Fever	18	24	— 25	Diseases of the Arteries, Atheroma, etc.	1,653	1,222	+ 35
Measles	8	41	— 80	Other Diseases of the Circulatory System	48	31	+ 55
Scarlet Fever	17	36	— 53	Bronchitis	237	308	— 23
Whooping Cough	93	114	— 18	Pneumonia	1,724	1,564	+ 10
Diphtheria and Croup	143	192	— 26	Other Diseases of the Respiratory System	248	264	— 6
Influenza	178	313	— 43	Diseases of the Stomach	133	132	+ 1
Plague	...	...	...	Diarrhoea and Enteritis (under 2 years)	141	152	— 7
Erysipelas	20	20	...	Diarrhoea and Enteritis (2 years and over)	98	111	— 12
Infantile Paralysis	7	21	— 33	Appendicitis	237	239	— 1
Lethargica Encephalitis	7	14	— 50	Hernia, Intestinal Obstruction	213	212	+ 0
Epidemic Cerebro-spinal Meningitis	7	6	+ 17	Cirrhosis of the Liver	107	98	+ 9
Other Epidemic Diseases	23	23	...	Other Diseases of the Digestive System	391	394	— 1
Tuberculosis, Respiratory System	991	980	+ 1	Bright's Disease (Acute and Chronic)	1,537	1,516	+ 1
				Other Genito-urinary Diseases	398	401	— 1
Tuberculosis, Meninges and Nervous System	30	39	— 23	Puerperal Septicaemia	52	70	— 26
Other Tuberculosis Diseases	57	61	— 7	Other Puerperal Diseases	181	209	— 13
Cancer	2,870	2,746	+ 5	Malformations	261	263	— 1
Diabetes	475	424	+ 12	Congenital Debility	109	86	+ 27
Other General Diseases	609	577	+ 6	Premature Birth	622	648	— 4
Diseases of the Blood	214	237	— 10	Other Developmental Diseases	395	333	+ 19
Chronic Poisonings and Intoxications	29	27	+ 7	Senility	665	739	— 10
Meningitis	101	105	— 4	Suicide	297	325	— 9
Cerebral Haemorrhage and Apoplexy	656	820	— 20	Accident	1,396	1,157	+ 21
Insanity	80	85	— 6	Other Violence	131	114	+ 15
Convulsions of Infants	15	14	+ 7	All other causes	184	231	— 20
Other Diseases of the Nervous System	615	615	...				
Diseases of the Heart	6,514	5,490	+ 19	Total	25,235	23,843	+ 6

* Adjusted to the mean population of 1937, viz., 2,694,679.

Epidemic Diseases.—The deaths from epidemic disease numbered 521, as compared with an adjusted average of 804 during the previous five years, being a decrease of 35 per cent. The deaths from scarlet fever numbered 17, an experience which was 53 per cent. less than the average rate of the previous five years.

Tuberculosis of the Respiratory System was the cause of 991 deaths in 1937, the rate 368 per million living, being 1 per cent. above the average rate of the previous five years. The deaths of males numbered 647, and of females 344, and the rates per million living were 475 and 258 respectively. The mortality rate from other tuberculous diseases was 14 per cent. below the average of the previous five years.

Cancer.—The deaths from cancer numbered 2,870, equal to a rate of 1,065 per million living, and 5 per cent. above the average rate of the preceding quinquennial period. The deaths of males numbered 1,497, and of females 1,373, the rates for each sex being 1,100 and 1,030 per million respectively. The death-rate from this disease has been increasing steadily for a number of years.

Cerebral Haemorrhage.—To cerebral haemorrhage and apoplexy during 1937 were ascribed 656 deaths, of which 291 were those of males and 365 of females. The rate was 243 per million living, or 214 for males and 274 for females. The rate for 1937 is 20 per cent. lower than that for the previous quinquennium. The Government Statistician points out, however, that considerations of certification and classification have rendered this comparison unreliable.

Diseases of the Heart were the cause of 6,514 deaths, the rate being 2,417 per million. The apparent increase in these deaths during the last 25 years is probably the result of the greater attention given to pathological diagnosis. Furthermore, in combination with other diseases, where precise information is lacking, diseases of the heart are given precedence over many other diseases. The rate for deaths from heart diseases in 1937 was 19 per cent. above the average rate of the preceding five years. Of the total deaths, 3,854 were of males and 2,660 females, the corresponding rates per million living of each sex being 2,831 and 1,995.

Bronchitis and Pneumonia.—Bronchitis, with 237 deaths, equal to a rate of 88 per million living, showed a decrease of 23 per cent., and pneumonia, with 1,724 deaths, or 640 per million, an increase of 10 per cent., as compared with the experience of the previous five years.

Of the deaths from bronchitis, 138 were of males and 99 of females, or 101 and 74 per million living respectively. Of the persons who died from pneumonia, 1,036 were males and 688 were females, and the rates were 761 and 516 per million living of each sex.

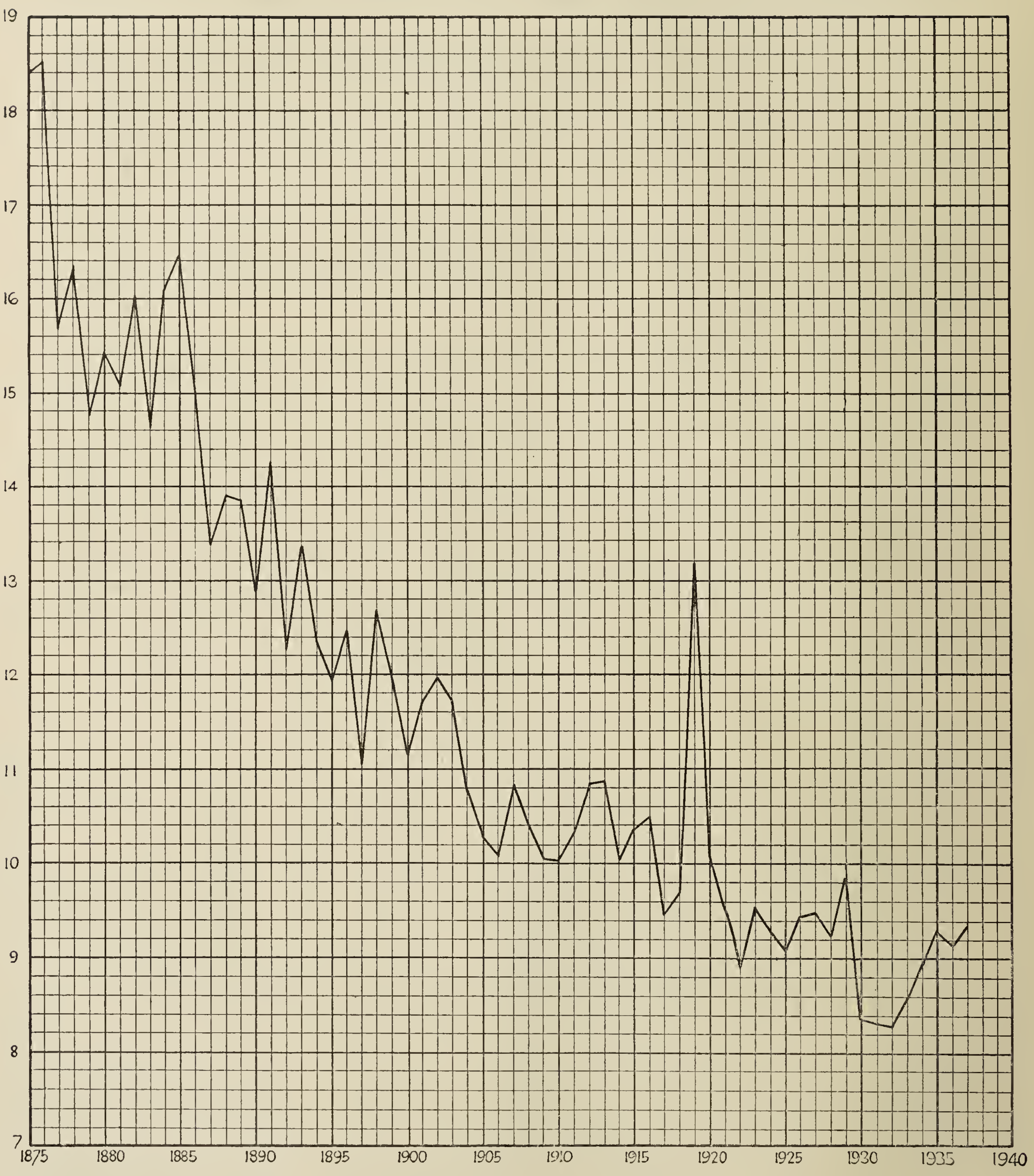
Bright's Disease.—During 1937 there were 1,935 deaths due to diseases of the genito-urinary system, of which 1,537 were caused by acute nephritis and Bright's disease. The rate for nephritis (acute and chronic) was 570 per million living; for males 633 per million, and for females 506 per million. In 1937 the rate was 1 per cent. more than the average of the previous five years. The general tendency of the rate has been to increase.

Diseases of Infants.—The principal causes were prematurity, 622; congenital malformations 222, other developmental diseases 504, diarrhoea and enteritis 120, pneumonia 189, epidemic diseases 90 (including whooping cough 58, diphtheria 6), bronchitis 9, and meningitis 19.

The following statement shows the causes of deaths of children under 1 year of age per 1,000 live births, during 1937 in comparison with the preceding five years :—

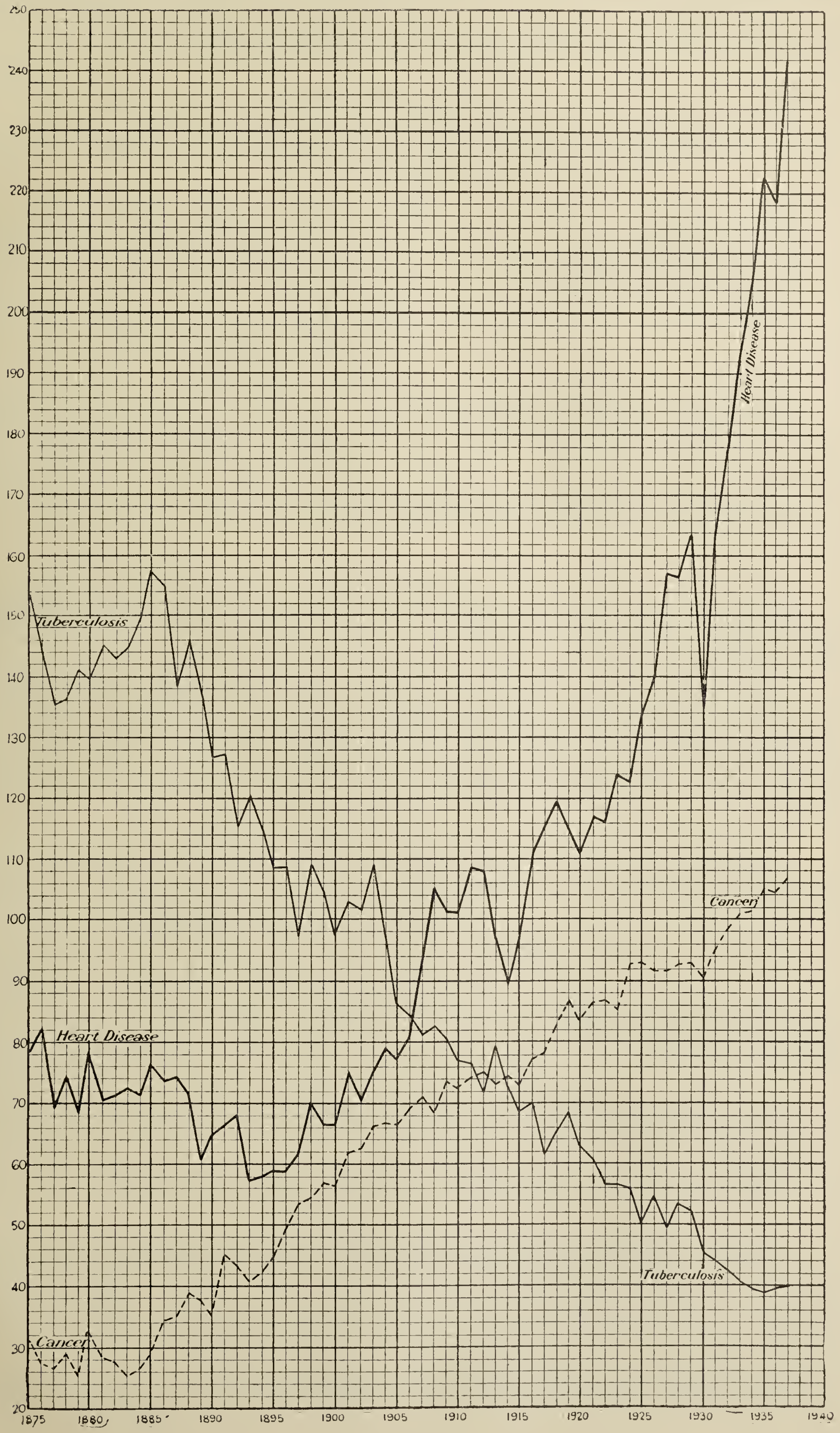
Causes of Death.	Males.		Females.		Total.	
	1937.	1932–36.	1937.	1932–36.	1937.	1932–36.
Epidemic Diseases	34	276	56	259	90	535
Tuberculous Diseases	7	22	2	16	9	38
Syphilis	1	21	2	20	3	41
Meningitis	9	61	10	38	19	99
Convulsions	3	27	4	21	7	48
Bronchitis	8	68	1	47	9	115
Pneumonia	122	539	67	434	189	973
Diarrhoea and Enteritis	63	306	57	231	120	537
Malformations	121	596	101	455	222	1,051
Congenital Debility	63	257	46	163	109	420
Premature Birth	337	1,763	285	1,392	622	3,155
Injury at Birth	140	463	85	342	225	805
Other Diseases of Early Infancy	95	475	75	339	170	814
Other Causes	78	405	60	326	138	731
All Causes	1,081	5,279	851	4,083	1,932	9,362

ANNUAL DEATH RATE PER 1,000 OF THE POPULATION IN NEW SOUTH WALES, 1875-1937.



* 1919—Influenza Epidemic (deaths 6,387).

CANCER, TUBERCULOSIS, AND HEART DISEASE.
Annual Death Rate per 100,000 of the Population in New South Wales, 1875-1937.



SECTION 1.

A.—PUBLIC HEALTH ADMINISTRATION.

Chemical Laboratory.

REPORT OF THE GOVERNMENT ANALYST FOR THE YEAR ENDED 31st DECEMBER, 1937.

Staff:

Government Analyst	Sidney G. Walton, F.A.C.I.
Second Government Analyst	Harold B. Taylor, M.C., V.D., D.Sc., F.I.C., F.A.C.I.
Senior Assistant Government Analyst ...	Arthur D. Dibley, A.S.T.C., A.A.C.I.
Assistant Government Analyst	Robert G. O'Brien, A.S.T.C., A.A.C.I.
Analysts	Ernest S. Ogg, B.Sc., A.A.C.I.
	William F. Fisher, A.S.T.C., A.A.C.I.
	Ronald C. Sparks, A.S.T.C., A.A.C.I.
	Thomas A. McDonald, A.S.T.C.
	Edward R. Cole, B.Sc., M.P.S.

Three laboratory assistants; 1 laboratory attendant; 1 clerk (Grace McGlynn); 2 office assistants.

During the year 1937, a total of 36,861 samples were examined in the Chemical Laboratory. This number is considerably in excess of the number received in the laboratory during any previous year, and represents an increase of 3,103 samples over the number of samples received in 1936.

The work undertaken during the year embraced 34,569 samples submitted for the purposes of the Pure Food Act, and 2,292 samples examined for the Public Services of the State.

Pure Food Act.

Milk.—The milk samples examined in connection with the administration of the Pure Food Act totalled 25,903, representing 17,896 samples collected in the metropolitan area by food, municipal and shire inspectors, 3,204 samples collected by the same authorities in country districts, and 4,803 samples submitted by the Milk Board.

Of the total milk samples collected in the metropolitan area by food, municipal, and shire inspectors, 0·89 per cent. failed to conform to standard, in comparison with 1·29 per cent. in 1936. This is the lowest percentage of adulterations ever recorded in the metropolitan area. The proportion of adulterations in the country milks amounted to 4·55 per cent. of the total collected, in comparison with 4·58 per cent. in 1936, while that of the samples submitted by the Milk Board amounted to 1·31 per cent. as against 1·72 per cent. in 1936. The proportion of adulterations in the total milks submitted by all authorities under the Pure Food Act amounted to 1·42 per cent. in comparison with 1·84 per cent. in 1936.

The following table gives particulars of the whole of the milk adulterations recorded :—

Particulars of Milk Adulteration.

	Total Samples Collected	Samples Deficient in Milk-fat.		Samples Containing Added Water.		Samples Deficient in Milk-fat and containing Added Water.		Total.	
		No.	Proportion per cent.	No.	Proportion per cent.	No.	Proportion per cent.	No.	Proportion per cent.
Collected in the Metropolitan Area ...	17,896	71	0·396	77	0·430	12	0·067	160	0·894
Collected in Country Districts	3,204	46	1·435	93	2·902	7	0·218	146	4·55
Submitted by Milk Board	4,803	24	0·499	36	0·749	3	0·062	63	1·311
	25,903	141	0·54	206	0·79	22	0·08	369	1·42

Details of investigations carried out in connection with milk and cream will be found in the Appendix to this Report.

The samples other than milk submitted for analysis in connection with the administration of the Pure Food Act amounted to 8,666, consisting of 8,535 foods and 131 drugs.

Bread Standardisation.—Representations regarding the standardisation of bread were made during the year by an Interstate Nutritional Advisory Board. To make a white loaf of absolutely uniform composition it would be necessary to have an absolutely standard flour. Millers, as far as they are able, endeavour to produce such a flour, but natural conditions and the failure of crops in particular districts militate to some extent against the success of their efforts. It is found in this State that, generally speaking, the nitrogenous content of wheat materially increases from the south to the north. That is to say, that Riverina wheats will be lower in nitrogen than those grown in the north-western parts of the State. The production, therefore, of an absolutely uniform bread hardly appears practicable. Although it cannot be assumed that all breads sold in the State are of uniform composition, white bread, standardised as it is under the Pure Food Act, is of approximately uniform composition, the added variables being chiefly in the form of fat and yeast nutrients used by the baker with a view to producing a more attractive loaf. The amended standards for wheatmeal, wholemeal, and brown bread also provide for bread in their respective classes of approximately uniform composition.

It might be considered advisable, in the future, however, from a nutrition point of view to consider the advisability of increasing the minimum nitrogen content of flour, the prescribed minimum at the present time being 1·2 per cent.

Food Colourings.—Application was received for the addition of a number of dyes to the list of permitted food colours. Three, the harmlessness of which was well established, were recommended, and have since been included in the list. In the absence of a toxicity factor for the remaining colours, however, it was decided that the application could not be granted until further information was available.

Beer.—A number of samples of beer were examined, nineteen of which were found to contain preservative. The Regulation permits the addition of preservative to bulk beer, but it is necessary that its presence be declared. The addition of preservative to bottled beer, ale, or stout is not permitted by the standard at present in force in this State. As, however, traces of sulphur dioxide will generally be found in fermented liquids of this nature, it is recommended that the standard be altered to permit beer, ale, porter, or stout to contain total sulphur dioxide in the proportion of not more than 1 grain per gallon, without declaration. It is considered that the present provisions of the Regulation regarding sulphur dioxide in bulk beer, etc., should not otherwise be altered, except to provide that where the total sulphur dioxide exceeds 1 grain per gallon its presence must be declared on the container.

Vehicle for Essences.—Representations were brought forward regarding the use of propylene glycol as a vehicle for essences. The standard under the Act permits the use of ethyl alcohol or some other harmless vehicle. The firm applying forwarded a pamphlet containing details of certain work undertaken, but it was noted that the work had been carried out on one isomer only, viz., that having the formula $CH_3.CHOH.CH_2OH$, and was chiefly in regard to the effect on rats of drinking considerable amounts of propylene glycol. One of the authors of the pamphlet at a later date stated that the question of its use as, or in, foods had not been given special consideration during the course of investigation. Propylene glycol is not recognised by the B.P. or B.P.C. for use in pharmaceutical preparations, and it was decided that, unless evidence were forthcoming that it is not more toxic than ethyl alcohol its use cannot be permitted.

Gelatinous Protective coating for foodstuffs.—Some time ago an application was made for permission to use a gelatine compound hardened with formaldehyde as a protective coating for hams, etc. It was claimed by the applicant that the formaldehyde did not penetrate into the meat, and as the coating would be entirely removed before cooking or eating, no possible harm could result to the consumers. On investigation in the laboratory, however, it was found that the formaldehyde did penetrate into the meat, and the application was refused. In 1937, an application was received from another company for permission to use a coating prepared on similar lines with the exception that potassium dichromate was substituted for the formaldehyde. No experiments were carried out in the matter, as, judging from the results of the previous experiments noted above, it appeared likely that small amounts of chromium would penetrate into the meat, especially when the coating was applied to the muscular tissue not having a protective skin. Assuming that such penetration would occur, the use of this coating for foodstuffs could not be permitted, since owing to their highly toxic properties, the addition of chromium compounds to foodstuffs is prohibited under the Pure Food Act.

Addition of Stabiliser to Milk Beverages Sold in Bottled Form.—Application was made for permission to add a stabiliser to chocolated and malted milk sold in bottled form. Some little time ago a very palatable beverage prepared from skim milk, cocoa, and sugar, which had the approximate food value of milk, was examined in the laboratory. It is possible that if whole milk is used in the preparation of similar articles some thickener or stabiliser may be required to prevent separation. The stabiliser suggested in the application under review (sodium alginate) may in itself be regarded as a harmless substance, and no objection was taken to it from this point of view. The real danger in permitting its use in beverages is in the creation of a precedent for the use of this and other substances (gum, gelatin, viscogen, etc.) in such articles as cordials, cream, etc., where its presence may be misleading to the purchaser in so far as it may be considered that the thicker the article the better the quality. It was recommended that this aspect of the question should be taken into consideration, and if the application were granted a standard be framed prescribing a minimum milk content, since such a beverage would enter into competition with fresh milk shakes, etc.

Mold Content of Tomato Products.—As a result of investigations carried out in the laboratory, a recommendation was made, which has been given effect to, whereby it is prescribed that the mold content of tomato sauce or tomato puree shall not exceed 50 per cent. of the microscopic fields examined, as determined by the method laid down by the Association of Official Agricultural Chemists. During the course of work carried out, it was amply demonstrated that the mold content of tomato pulp depends not so much on the variety of tomatoes used as on the efficiency of the sorting and trimming to which the material has been subjected. It is considered that manufacturers should experience no difficulty whatever in keeping their products well within the prescribed limit for mold.

Pickles.—Five samples of pickled gherkins examined were found to contain copper, ranging from fifteen to fifty parts per million, due to the use of copper cooking vessels in the preparation. One sample contained 220 parts per million of aluminium, which had been added for hardening purposes.

Vegetables, Canned.—Two samples of canned peas were found to contain added aniline colouring matter, and two samples were found to contain over 100 parts per million of zinc, which had the effect of retaining the green colour naturally present in the peas.

Glycerine Soap.—Eleven samples of transparent glycerine soap were examined during the year six of which complied with the requirements of the Act in regard to the fatty acids content, while five, all the product of one firm, were deficient in fatty acids, and contained notable amounts of sugar, an addition not permitted by the standard.

Carboxide as a Fumigant for Foodstuffs.—Carboxide is a mixture of ethylene oxide with carbon dioxide in the proportion of approximately 1 of the former to 8 of the latter. The question of its use as a fumigant for food substances was brought forward during the year. The U.S. Department of Agriculture, in the course of an investigation some ten years ago, found ethylene oxide to be highly toxic to certain species of insects. It is stated that those commonly infesting food products, etc., can be easily killed by the vapours of ethylene oxide in concentrations that can be used without danger from fire and are not dangerous to human beings. No deleterious effect was noticeable on foods such as nut meats and dried fruits when exposed to the commercial dosage of the fumigant for twenty-four hours. Later it was found that the addition of 7·15 vols. of carbon dioxide to 1 vol. of ethylene oxide gives a mixture which is non-inflammable under all conditions at normal temperatures and pressures, and which materially increases the toxicity of ethylene oxide to insect life. While no work has been carried out by me in this connection, it would appear from the result of the American experiments that carboxide may safely be used for extermination of insect pests in stored foods, etc.

A.P.C. Powders.—The question of the quality of A.P.C. powders retailed by the cheaper stores was brought under notice during the course of an inquiry regarding chain stores. It was claimed by those advocating the restriction to chemists of the sale of these powders that the articles sold by the cheaper stores were of inferior quality, in many instances starch and other filling agents being used. Fifteen samples, purchased mostly from the cheaper stores, were submitted for analysis, and in no instance was starch found. Powder prepared to a similar formula and put out under two brands by one firm was found to contain approximately 50 per cent. of lactose, and to be deficient in the named constituents. This was the only instance of filling detected, and appropriate action was taken to penalise the manufacturer and prevent the distribution of any further powders. In four other instances one or more of the constituents was deficient in weight, ranging from approximately 15 to 50 per cent. Prosecution certificates were issued in regard to the greater deficiencies. With regard to the suggestion that a definite standard for A.P.C. powders and tablets be formulated, it hardly seems advisable to prescribe a fixed composition for these preparations, in view of the wide range in the proportions of the constituents in the genuine articles of good quality on the market. The public can be sufficiently safeguarded by the enforcement of the provisions of Regulation 71 requiring the declaration of the quantity or proportion of the acetylsalicylic acid and phenacetin present.

Malt Extract and Cod Liver Oil.—The present standard under the Act for Malt Extract and Cod Liver Oil requires 15 per cent. by weight of cod liver oil. In view of the fact that the British Pharmacopoeia (with which certain of the States are in agreement) prescribes 10 per cent. by weight of cod liver oil, it was recommended that the clause in the regulation prescribing the cod liver oil content be deleted, thus permitting the Pharmacopoeial standard to take effect. This recommendation has not been given effect to.

The following Table gives particulars of the whole of the adulterations recorded :—

Nature of Sample.	Number of Adulterated Samples.	Particulars of Adulteration.
Bread, Brown	3	Not prepared from whole grain.
,, Wholemeal	2	Excess flour added.
Brine, Pumping	1	Considerable quantity of foreign matter and impurity.
Butter	5	Excess moisture.
Cake	1	Contained lime.
Casein	1	Rancid.
Cheese	1	Presence of permitted preservative not declared.
Chocolate coating	1	Term "chocolate" misleading; contained considerable quantity of hydrogenated arachis oil.
Cocoanut, Desiccated	6	Rancid and unfit for consumption.
Coffee and Chicory	1	Contained excess chicory.
Cordials	1	Labelled "double strength"; term not applicable; contained added citric acid.
,,	4	Contained excess preservative.
,,	2	Contained preservative other than that declared.
,,	4	Presence of artificial colouring not declared.
,,	2	Artificially flavoured.
Cream	5	Deficient in milk-fat.
,, (Pasteurised)	19	Raw cream.
Dessert	1	Artificial colouring and flavouring present and not declared.
Custard Powder	3	,, ,, ,,
Enamel Ware	2	Contained antimony and did not comply with solubility tests.
Essences, Flavouring	7	Deficient in alcohol.
,, ,,	2	Deficient in citral.
,, ,,	2	Presence of artificial colouring not declared.
,, ,,	2	Lead number did not comply with standard.
Fish, Smoked	1	Coloured with an aniline dye.
,, Tinned	1	Excess metallic contamination.
Flour, Self-raising	5	Deficient in carbon dioxide.
,, ,,	3	Statement on label regarding "rising agent" misleading.
Fruit, Dried	2	Deteriorated and unfit for consumption.
,, Fresh	7	Excess arsenical contamination.
Ginger, Ground	1	Excess lime.
Ice Cream	7	Deficient in milk-fat.
Ice Cream Stabiliser	2	Prohibited thickening agent.
Jams	4	Contained foreign fruit pulp.
,,	2	Deficient in fruit.
,,	1	Presence of artificial colour not declared.

Nature of Sample.	Number of Adulterated Samples.	Particulars of Adulteration.
Margarine	2	Excess water.
Meat, Fresh	74	Illegally preservatised.
.. Tripe	11	.. ,,
.. Minced	167	.. ,,
.. Sausages	220	Contained excess of permitted preservative.
,, Smallgoods	4	.. .. .. ,,
.. ,,	1	Contained excess nitrate.
.. ..	5	Contained excess starch.
.. Smoked	6	Coloured with an aniline dyestuff.
Milk, Fresh	141	Deficient in milk-fat.
.. ,,	206	Contained added water.
.. ..	22	Deficient in milk-fat and contained added water.
Milk Containers	5	Contaminated with dirt.
Milk, Condensed	2	Deficient in milk-fat.
Pickles	5	Excess copper.
..	1	Excess aluminium.
..	1	Contained saccharin.
..	1	Contained excess preservative.
..	1	Presence of artificial colour not declared.
Soap	5	Contained considerable quantity of sugar.
..	1	Soap mixture.
Spirits	3	Excess added water.
Vegetables, Cooked	2	Contained saccharin.
,, Fresh	1	Excess arsenical contamination.
,, Canned	1	Dried vegetables used in preparation.
.. ,,	2	Artificially coloured with an aniline dye.
.. ..	2	Considerable quantity zinc sulphate present.
.. Pickling Liquor	2	Contained saccharin.
Vinegar	1	Deficient in acetic acid.
Tomato Sauce	2	Artificially coloured and contained foreign pulp.
,, ..	1	Artificially coloured, contained foreign pulp, and mold content excessive.
,, ..	2	Artificially coloured.
.. ..	2	Excessive mold content.
Tomato Pulp	3	Contained grubs.
,, ,,	1	Excessive mold content.
Total	1,020	
Drugs—		
Ammonia, Cloudy	1	Poisonous substance sold in food container.
A.P.C. Powders	5	Deficient in declared constituents.
..	4	Variation in weights of powders and of constituents.
Camphorated Oil	1	Prepared with maize oil.
..	1	Prepared with soya bean oil.
..	1	Deficient in camphor.
Liver, Desiccated	1	Deteriorated and unfit for consumption.
Medicine Glasses	10	Markings inaccurate.
Total Drugs	24	

RESUME OF ADULTERATIONS.

Drugs, 24; *Foods* (other than meat and milk), 163; *Meats*, 488; *Milks*, 369. *Total Adulterations*, 1,044.

Samples Submitted for the Public Services of the State.—The samples examined for the Public Services of the State numbered 2,292, particulars of which are given hereunder.

Subsidised Institutions submitted 368 samples, including foods for examination in regard to quality and conformity to contract provisions, drugs and medicine, milk for control of dairy herds and quality of supply, human milk, serum and stomach lavage in connection with the diagnosis of illness, etc.

The Government Stores Department forwarded 582 samples for examination, embracing a considerable number of drugs for examination as to conformity to Pharmacopoeial standards. In addition samples of foods, soaps, cleansing powders, polishes, inks, disinfectants, insecticides, lubricants, waterproof cloth, medicines, paints, polishes, fuel oil, etc., were examined for the control of supplies made under contract and the formulation of suitable specifications for the varied range of articles required for Governmental use.

The Pharmacy Board submitted only two samples during the year in connection with the administration of the Poisons Act.

Police Authorities submitted 464 exhibits for examination in connection with criminal investigations, and 9 exhibits of animal viscera.

The following table gives particulars of the criminal charges investigated :—

Nature of Charge.	Number of Exhibits.
Uncertified deaths	347
Murder	8
Attempted poisoning	16
Abortifacients	18
Carnal knowledge	2
Rape	4
Inflicting grevious bodily harm	2
Dangerous driving while under influence of alcohol, causing death	1
Opium	11
Selling liquor without license	5
Counterfeit coining	5
Incendiarism	12
Horse doping	1
Robbery	14
Threatening letter	1
Poison baits	3
Animal poisoning	14
Total	464

Animal Viscera.—Nine exhibits of animal viscera were received, strychnine being found in 3 cases, and the chemical examination yielding negative results in the other 6 cases.

Coroners' Inquiries.—Coroners submitted exhibits in connection with 146 deaths which formed the subject of police investigation.

A very unusual case occurred in which a medical practitioner prescribed a 0·2 per cent. solution of novocaine in normal saline for the purpose of injecting to produce local anaesthesia during an operation. While the operation was being performed the patient collapsed and died. As the general condition of the patient did not appear to be such as to explain the collapse, the medical officer concerned refused to furnish a death certificate. Following on the post-mortem the internal organs of the deceased were submitted for chemical examination, together with the unused portion of the solution used for injection. On examination it was found that percaine was present in the organs, and that percaine had been substituted for novocaine by the chemist in making up the prescription. Percaine is approximately ten times as toxic as novocaine, and there is no doubt that the collapse and death were due to percaine. At the Coroner's inquiry, the evidence showed that the dispensing chemist was under the impression that percaine and novocaine (procaine) were synonymous. Unfortunately, there are at the present time a number of medicinal substances bearing closely resembling names or synonyms, the toxicity of which varies widely. While this is so, accidents of this nature are likely to recur.

Another death from this drug occurred in hospital, due to the patient swallowing some of the percaine used as a local anaesthetic during an operation on the throat.

The undermentioned table, giving particulars of the work of the Toxicological section during the last ten years will afford some idea of the expansion of this branch of the Laboratory's activities during the year 1937 :—

Statement of Toxicological Work performed during the years 1928 to 1937.

Particulars of Exhibits.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.
Viscera	64	77	83	68	66	78	83	76	73	97
Blood for Carbon Monoxide	3	1	1	2	2	2	2	2	2	12
Blood for Drowning	1	...	1	3	...	3	4	...	1	4
Blood and Urine for Alcohol	...	...	...	...	...	...	...	15	14	33
Total Deaths	68	78	85	73	68	83	89	93	90	146

Hereunder is given a brief summary of the chemical evidence furnished for the information of coroners inquiring into the deaths noted :—

Nature of Exhibit.	Result of Chemical Examination.	Number of Deaths.
Viscera (consisting usually of stomach and contents and solid organs).	No poison found	54
Do do ...	Amytal	1
Do do ...	Arsenic	4
Do do ...	Arsenic and copper compound (Paris green)	1
Do do ...	Atropine	1
Do do ...	Cyanide	5
Do do ...	Luminal	1
Do do ...	Luminal and veronal	1
Do do ...	Lysol	2
Do do ...	Mercury	1
Do do ...	Percaine	2
Do do ...	Permanganate	1
Do do ...	Strychnine	12
Do do ...	Veronal	4
Blood	Carbon monoxide	2
Do	Carbon monoxide and alcohol	2
Do	Sodium chloride (diagnosis of drowning)	10
Do	Sodium chloride (diagnosis of drowning) and alcohol ...	2
Viscera and Blood	Phosphorus and alcohol	1
Do do	Strychnine and alcohol	2
Do do	Negative for poisons; positive for alcohol	2
Do do	Negative for poisons and CO; positive for alcohol	1
Visera and urine	Negative for poisons; positive for alcohol	1
Blood	Alcohol	20
Blood and urine	do	4
Urine	do	9
		146

Waters and Sewages.—Departmental and municipal authorities submitted 376 samples of water in connection with the control and chemical treatment of country water supplies, swimming pools, etc., and 106 samples of effluent in connection with the supervision of sewage installations and the drainage and discharge of trade wastes, etc., into public places.

Industrial Hygiene Authorities submitted 188 samples for examination in connection with claims under the Workers' Compensation Act, the diagnosis of illness due to occupational causes, the ventilation of public halls, etc. These included air, dust, faeces, hair and nails, sludge, powder, urine, post-mortem specimens, etc.

Miscellaneous Authorities submitted fifty-one samples embracing feathers, flock, hair and other bedding material, medicinal powder, disinfectant, insecticides, water, soil, re suitability of land for building purposes, etc.

Details of all samples received will be found in Tables I and II attached.

S. G. WALTON,
Government Analyst.

Table I.—Samples examined during the year 1937 for the purposes of the Pure Food Act, 1908.

Nature of Sample.	Submitted by.	Samples.	
		Number Examined.	Number Adulterated or Falsely Described
Ammonia, Cloudy	Food Inspectors	1	1
A.P.C. Powders	,,	15	9
Baking Powder	,,	10	...
Beer, Ale, etc.	,,	32	...
Bran	,,	6	...
Bread	,,	47	5
Brine	,,	1	1
Butter	,,	58	5
Cake	,,	1	1
Camphorated Chalk	,,	1	...
Camphorated Oil	,,	11	3
Casein	,,	3	1
Cheese	,,	3	1
Chocolate Coating	,,	1	1
Cocoanut	,,	7	6
Cod Liver Oil	,,	1	...
Coffee and Chicory	,,	22	1
Coffee and Chicory Essence	,,	25	...
Colouring (for foods)	,,	4	...
Cordials	,,	124	13
Cream	,,	134	5
Cream	Milk Board	116	19
Custard Powder	Food Inspectors	3	3
Dessert	,,	1	1
Dripping	,,	2	...
Emulsion, clinic	,,	1	...
Enamel Ware	,,	3	2
Essences (flavouring)	,,	40	13
Eucalyptus Oil	,,	12	...
Face Cream	,,	1	...
Fish (Smoked, Canned, etc.)	,,	35	2
Flour, Self-raising	,,	53	8
Fruit, dried	,,	25	2
,, fresh	,,	24	7
,, juice	,,	1	...
Fruit Salad	,,	1	...
Ginger, Ground	,,	27	1
Glycol Propylene	,,	1	...
Honey	,,	13	...
Hydrogen Peroxide	,,	8	...
Ice Cream, Ice Blocks, etc.	,,	170	7
Ice Cream Stabilizers	,,	2	2
Jam	,,	37	7
Jelly Crystals	,,	10	...
Lipstick	,,	1	...
Liver, Dried	,,	3	1
Maize Oil	,,	1	...
Margarine	,,	3	2
Meat—Fresh	,,	863	74
,, Tripe	,,	872	11
,, Minced Meat	,,	1,817	164
,, ,,	Municipal Inspectors	28	3
,, Sausages	Food Inspectors	3,338	215
,, ,,	Municipal Inspectors	51	5
,, Smallgoods	Food Inspectors	193	10
,, ,,	Municipal Inspectors	6	...
,, Smoked	Food Inspectors	6	6
,, Tinned	,,	14	...
Medicine	,,	6	...
,, Glasses	,,	21	10
Milk, Fresh	,,	15,052	124
,, ,,	Metropolitan District and Shire Inspectors	2,844	36
,, ,,	Food Inspectors, Country Districts	975	64
,, ,,	Municipal and Shire Inspectors, Country Districts	2,229	82
,, ,,	Milk Board	4,803	63
,, Containers	Food Inspectors	5	5
,, Condensed	,,	15	2
Olive Oil	,,	23	...
Paraffin, Liquid	,,	13	...
Peanut Oil	,,	1	...
Pickles	,,	37	9
Powders, Bunticiding	,,	1	...
Salt, Table	,,	1	...
Salts, Health	,,	1	...
,, Epsom	,,	1	...
,, Schumann's	,,	1	...
Soap	,,	33	6
Soya Bean Oil	,,	3	...
Spirits	,,	9	1
,,	Licensing Inspectors	12	2
Sugar	Municipal Inspectors, Country Districts	1	...
Tea Tree Oil	Food Inspectors	2	...
Tomato Sauce, etc.	,,	56	11
Vegetables	,,	31	8
Vinegar	,,	50	3
Wine	,,	53	...
,, Medicated	,,	1	...
	Total	34,569	1,044

TABLE II.—Samples examined during the year 1937 for the Public Service of the State.

Authority Submitting.	Nature of Sample.	Number of Samples.
Subsidised Institutions.	Bread	14
,, ,, ...	Emulsion, clinic	2
,, ,, ...	Ether	2
,, ,, ...	Jam	4
,, ,, ...	Jelly	1
,, ,, ...	Meat	143
,, ,, ...	Medicine	1
,, ,, ...	Milk	107
,, ,, ...	,, Animal	1
,, ,, ...	,, for infant feeding	1
,, ,, ...	,, Human	67
,, ,, ...	Potato	1
,, ,, ...	Rice, cooked	1
,, ,, ...	Semolina	1
,, ,, ...	Serum	2
,, ,, ...	Stomach washings	5
,, ,, ...	Tomato Sauce	6
,, ,, ...	Vinegar	1
,, ,, ...	Vomit	2
,, ,, ...	Water	4
,, ,, ...	Wheatmeal	2
Government Stores Department.	Acetic Acid, glacial	1
,, ,, ...	Acetyl-salicylic Acid	5
,, ,, ...	Ammoninum Chloride	1
,, ,, ...	Ammonia, Aromatic Spirits of	1
,, ,, ...	A.P.C. Tablets	6
,, ,, ...	Benzoated Lard	1
,, ,, ...	Benzoin	3
,, ,, ...	Blanket	1
,, ,, ...	Cascara Sagrada, liquid extract	7
,, ,, ...	Chicory	22
,, ,, ...	Chloroform	3
,, ,, ...	Cleansers, liquid	8
,, ,, ...	Cod Liver Oil	1
,, ,, ...	Coffee	6
,, ,, ...	Disinfectants	91
,, ,, ...	Ergot, liquid extract	1
,, ,, ...	Ether	4
,, ,, ...	Fehlings Solution	1
,, ,, ...	Ferrous Phosphate	2
,, ,, ...	Flour	4
,, ,, ...	Fuel Oil	8
,, ,, ...	Gentian	1
,, ,, ...	Gum, liquid	5
,, ,, ...	Helmets	12
,, ,, ...	Hyoscyamus, concentrated tincture.	1
,, ,, ...	Ichthammol	1
,, ,, ...	Inks and Ink Powders	40
,, ,, ...	Insecticides and Vermicides	9
,, ,, ...	Liquorice	5
,, ,, ...	Lubricants	115
,, ,, ...	Luminal	1
,, ,, ...	Magnesium Carbonate	3
,, ,, ...	Mother's Tonic	1
,, ,, ...	Nux Vomica	3
,, ,, ...	Oatmeal	1
,, ,, ...	Ointment	7
,, ,, ...	Olive Oil	4
,, ,, ...	Opium	3
,, ,, ...	Paint	17
,, ,, ...	Paraffin	2
,, ,, ...	Paraldehyde	2
Government Stores Department.		
,, ,, ...	Paste, adhesive	5
,, ,, ...	Pills	1
,, ,, ...	Polishes, floor	7
,, ,, ...	,, Metal	5
,, ,, ...	Potassium Bromide	1
,, ,, ...	,, Citrate	1
,, ,, ...	,, Iodide	1
,, ,, ...	Prune, Virginian, Syrup of	2
,, ,, ...	Senega	1
,, ,, ...	Soap	63
,, ,, ...	Squill	2
,, ,, ...	Stencil Paper	5
,, ,, ...	Tar	8
,, ,, ...	Thermometers	48
,, ,, ...	Tolu, Solution of	2
,, ,, ...	Water, distilled	2
,, ,, ...	Waterproof Cloth	12
,, ,, ...	Wheatmeal	3
,, ,, ...	White Lead	2
,, ,, ...	Zinc Paste	1
Pharmacy Board ...	Bath Cleanser	1
,, ,, ...	Spirits of Salts	1
Police Department	Criminal Investigations	464
,, ,, ...	Animal Viscera	9
,, ,, ...	Human Viscera	146
Municipal and Departmental Authorities.	Water	376
,, ,, ...	Sewage	106
Industrial Hygiene Authorities.	Air	7
,, ,, ...	Cyanide Briquettes	1
,, ,, ...	Dust	25
,, ,, ...	,, filter pads from	2
,, ,, ...	Faeces	2
,, ,, ...	Human Hair	18
,, ,, ...	,, Nails	13
,, ,, ...	Sludge	3
,, ,, ...	Urine	110
,, ,, ...	Post Mortem Specimens	6
,, ,, ...	Powder, Talcum	1
Miscellaneous Authorities.	Chocolate Cream	1
,, ,, ...	Disinfectant	1
,, ,, ...	Feathers	2
,, ,, ...	Fish Oil	1
,, ,, ...	Flock	14
,, ,, ...	Foam producing agents	3
,, ,, ...	Fruit	1
,, ,, ...	Hair for mattress making	1
,, ,, ...	Jute	2
,, ,, ...	Kapok	3
,, ,, ...	Motor Oil	1
,, ,, ...	Oxalic Acid	1
,, ,, ...	Powder, digestive	1
,, ,, ...	Prickly Pear poison	5
,, ,, ...	Rat Poison	1
,, ,, ...	Refrigerator, Flock for filling	1
,, ,, ...	Sausage Casing	3
,, ,, ...	Soil	5
,, ,, ...	Sulphur	1
,, ,, ...	Water	3
	Total	2,292

APPENDIX.

Investigations carried out in regard to Milk and Cream by Mr. R. G. O'Brien, A.S.T.C., A.A.C.I.

I. MILK.

During the hearing of a prosecution for selling adulterated milk, the magistrate, in order to satisfy himself as to the merits of arguments advanced on behalf of the defendant vendor, asked that work should be undertaken to determine the possibility of milk on analysis showing the presence of added water, due to a part becoming frozen on to the brine coils in a holding vat, and then, after some of the slightly concentrated liquid having been drawn off for vendors, the frozen milk adhering to the coils thawing out and so diluting the remaining milk in the vat. The following is a report of the work undertaken in this connection.

Weather Conditions.

The weather conditions on the days on which the experiments were conducted were as follows :—

1st day—9 a.m. Temperature 62°F. Humidity 66 per cent.
3 p.m. ,, 65°F. ,, 63 ,,
Maximum temperature for 24 hours 66°F.
Minimum ,, ,, 24 ,, 55°F.
2nd day—9 a.m. Temperature 65°F. Humidity 84 per cent.
3 p.m. ,, 68°F. ,, 79 ,,
Maximum temperature for 24 hours 70°F.
Minimum ,, ,, 24 ,, 61°F.

The experiments, therefore, were carried out under humid conditions which were favourable to the deposition of moisture on cold surfaces.

Apparatus Used and Collection of Samples.

The vats used for the storage and freezing of the milk were rectangular in shape, of the following approximate internal measurements, 7 ft. 5 in. x 3 ft. 4½ in. x 4 ft., made of tinned copper, and supported and insulated with 2 inch wood, etc. Each vat contained two banks of eight brine coils, one bank running practically the whole 7 ft. 5 in. length, and the other bank on the other side of the vat being some 18 inches less in length. Agitation of the milk was performed by means of a multiple vertical plunger, with an overhead lift. Agitation was continued during the whole time of each experiment. Before each sample was collected, 2½ gallons of milk were run off in order to clear the delivery pipe of previous milk. Five gallons were then run into a can, mixed by means of a hand plunger, and one half-pint sample collected, packed in ice, and despatched to the Chemical Laboratory, Sydney, for analysis.

Experimental.

Two series of experiments were carried out :—

(*a*) Approximately 410 gallons of milk were placed in a vat of the above dimensions (capacity 600 gallons). By means of circulating brine in the coils a very heavy coating (approximately ¾ inch thick) of frozen milk was deposited on the brine coils. Circulation of brine was then stopped, and the milk was run out at intervals until the vat was empty. This experiment would be similar to conditions operating when an accidental heavy freezing of the milk had taken place, and the milk was then distributed to the vendors with the brine shut off. The composition of milk sold under this condition is given in Table I attached.

(*b*) Approximately 570 gallons of milk were placed in a similar vat (capacity 600 gallons); 160 gallons were run off at intervals. The brine was then circulated through the coils, and all the milk run off at intervals with the brine continuously circulating in the coils. This experiment would be similar to conditions operating when milk is distributed to the vendors with continuous deposition of frozen milk taking place on the coils during the whole period of the emptying of the vat. The composition of milk sold under this condition is given in Table II attached.

Analysis.

The *Total Solids* were determined by direct weighing of the dried evaporated milk.
The *Fat* was determined by the Leffman-Beam modification of the Babcock method.
The *Solids-not-fat* equals Total Solids minus Fat.
The *Freezing Point* was determined by the Hortvet method.

Results and Conclusions of Experiments.

Contrary to anticipation, when commencing with a heavy deposit of frozen milk on the coils, then shutting off the circulation of the brine, and taking approximately three hours to empty the vat, the results show that the milk continues to freeze and deposit on the coils with a further concentration of solids-not-fat content, and a greater depression of the freezing point in the milk being served to vendors. The sample taken at 1·10 p.m. shows that the milk being sold at this time had concentrated 0·9 per cent., whilst the sample sold at 4·0 p.m. shows that the milk had concentrated 2·4 per cent. Moreover, the frozen milk adhering to the coils was hard to dislodge, and took a further ten hours to completely thaw out. It is safe, therefore, to conclude that even under these extreme conditions there is no danger of the milk being sold to vendors on analysis showing added water unless gross negligence has been displayed, and the vendor has received the actual frozen milk adhering to the coils which has subsequently thawed out.

As anticipated in the second experiment, the milk continued to become more concentrated as the vat was emptied, due to the deposition of the frozen milk on the coils. The last pint of liquid, even though it must have included some moisture condensation from the sides of the vat, gave a concentration of 0·7 per cent. on the original milk used. It is safe, therefore, to conclude that under the conditions of the coils circulating brine while the delivery of milk is taking place to the vendor, there is no danger of the analysis showing added water, unless there has been gross negligence, and the vendor has received the actual frozen milk adhering to the coils which has subsequently thawed out.

TABLE I.—First Experiment commencing with Coils coated with Frozen Milk (approx. ¾ inch thick) and Brine not circulating—Vat discharged under these conditions.

Sample No.	Date and time collected.	Approx. amount of Milk withdrawn from vat when Sample collected.	Approx. amount of Milk remaining in vat when Sample collected.	Temp. of Milk in vat when Sample collected.	Number of Brine Coils showing above surface of milk when Sample collected.	Analysis of Milk.				Calculated on original solids-not-fat.	Remarks (*Re* condition of coils, etc.).
						Total Solids.	Fat.	Solids-not-fat.	Freezing Point (Hortvet).		
		gals.	gals.	°F.		%	%	%	°C.	%	
1	5/10/37. 11·30 a.m. ...	Nil.	410	33	None ...	12·61	3·8	8·81	— 0·535	100·0	No frozen milk on coils.
2	1·10 p.m. ...	12	388*	32	,, ...	12·69	3·8	8·89	— 0·540	100·9	Heavy solid deposit of frozen milk (¾ inch thick) on all coils.
3	2·0 p.m. ...	92	308*	32	Top coil ...	12·70	3·8	8·90	— 0·541	101·0	,, ,,
4	2·40 p.m. ...	194	206*	32	Down to 4th top coil.	12·77	3·8	8·97	— 0·548	101·8	,, ,,
5	3·20 p.m. ...	296	104*	32	Down to 7th top coil.	12·85	3·85	9·00	— 0·548	102·1	,, ,,
6	4·0 p.m. ...	348	52*	32	All 8 coils ...	12·88	3·85	9·03	— 0·552	102·4	,, ,,
7	6/10/37. 2·45 a.m. ...	400	Frozen milk when thawed = 10¼ gals.	...	,, ...	7·58	2·4	5·18	— 0·297	58·7	All frozen milk adhering solidly to coils—Ten hours to thaw out completely.

* Plus frozen milk.

TABLE II.—Second Experiment commencing without any Frozen Milk on Coils. When 410 gallons of Milk were remaining in Vat, brine was circulated and kept circulating until Vat discharged.

Sample No.	Date and time collected.	Approx. amount of Milk withdrawn from vat when Sample collected.	Approx. amount of Milk remaining in vat when Sample collected.	Temp. of Milk in vat when Sample collected.	Number of Brine Coils showing above surface of milk when Sample collected.	Analysis of Milk.				Calculated on original solids-not-fat.	Remarks (*Re* condition of coils, etc.).
						Total Solids.	Fat.	Solids-not-fat.	Freezing Point (Hortvet).		
		gals.	gals.	°F.		%	%	%	° C.	%	
1	5/10/37. 4·45 p.m. ...	Nil.	570	33	None ...	12·64	3·8	8·84	— 0·532	100·0	No frozen milk on coils.
2	6/10/37. 2·30 a.m. ...	12	558	33	,, ...	12·65	3·8	8·85	— 0·532	100·1	,, ,,
3	4·0 a.m. ...	255	315	32	Top coil ...	12·65	3·8	8·85	— 0·532	100·1	Brine circulated at 3·30 a.m. Approximately 410 gals. then remaining in vat.
4	4·24 a.m. ...	375	195*	32	Down to 4th top coil.	12·67	3·8	8·87	— 0·535	100·3	Light deposit of frozen milk on coils.
5	5·0 a.m. ...	413	157*	32	Down to 6th top coil.	12·70	3·8	8·90	— 0·540	100·6	Light deposit of frozen milk on upper coils. Medium deposit on 4th and 5th coils.
6	5·15 a.m. ...	473	97*	32	Down to 7th top coil.	12·72	3·8	8·92	— 0·541	100·9	Additional heavy deposit of frozen milk on 6th and 7th coils.
7	5·45 a.m. ...	541	29*	32	All 8 coils ...	12·82	3·85	8·97	— 0·545	101·4	Additional heavy deposit of frozen milk on 8th coil.
8	6·10 a.m. ...	570†	Last pint of liquid.	32	,, ...	12·61	3·7	8·91	— 0·540	100·7	,, ,,
9	4·0 p.m. ...	570†	Frozen milk when thawed = 8 gals.	...	,, ...	10·64	3·4	7·24	— 0·430	81·9	All frozen milk adhering solidly to coils. Ten hours to thaw completely.

* Including frozen milk. † Minus frozen milk.

II. Pasteurisation of Cream by the "Flash" Process.

As it was suspected that certain cream purporting to be treated by the "flash" process in accordance with the requirements of the Pure Food Act had not been heated to the stipulated minimum temperature of 178° F., an investigation was carried out to determine whether the chemical tests applied could be relied upon for Court purposes as giving accurate results in regard to the heat treatment of the cream.

The machine used for the pasteurisation of the milk before separation into cream was a heat exchanger or plate pasteuriser multiple-purpose machine. Milk, after it was received and weighed, was poured into a vat and passed through a continuous milk filter. It was then pasteurised by means of the above-mentioned machine. The milk took about 30 seconds to be raised from room temperature (85° F.) to the pasteurising temperature (179° F.). It was then held for 15 seconds at this temperature, and a further 30 seconds elapsed whilst the milk was cooled from the pasteurising temperature to the separating temperature (102° F.). After leaving the pasteuriser, the milk was conveyed by pipe-line to the separator. After separation, the cream passed over a brine cooler, and was received into 10-gallon cans, the separated milk being run off for casein manufacture.

The pasteurising equipment used was easily maintained at any desired temperature, plus or minus 1° F. up to 185° F. During the pasteurising of 550 gallons of milk subsequently separated for cream, the following temperatures were maintained:—

Time.	Recorded Temperature.	Corresponding to approximate output of pasteurised cream.
	°F.	
Commencement of Separation—8·55 a.m.	178·5	
9·1 ,, ...	179·5	
9·5 ,, ...	179·5	10 gallons.
9·10 ,, ...	179·3	
9·13 ,, ...	179·5	
9·15 ,, ...	179·5	20 gallons.
9·20 ,, ...	179·5	
9·21 ,, ...	179·5	
9·23 ,, ...	179·2	30 gallons.
9·25 ,, ...	180·0	
9·27 ,, ...	179·5	
End of Separation .... 9·30 ,, ...	179·0	40 gallons.

At no time did the recorded temperature fall below 178° F., nor rise above 180° F.

Samples in duplicate of raw milk, pasteurised milk, cream, and separated milk were collected. These were taken after 10 gallons of cream, equivalent to the separation of approximately 140 gallons of milk, had taken place. Further samples in duplicate of raw milk, pasteurised milk, cream, and separated milk were collected after 30 gallons of cream, equivalent to the separation of 420 gallons of milk, had taken place.

The samples were collected in duplicate in order that a series of tests could be carried out as soon as possible after collection, and then another series of tests carried out on the following day, the samples meanwhile being kept on ice. This was considered necessary in order to assess any possible alteration in the enzymes of the cream during a 24-hours delay in examination. As far as could be observed, no alteration took place and, therefore, examination 24 hours after collection and keeping under proper conditions may be regarded as a reliable guide to the presence or otherwise of the enzymes under test. A further sample, representing the whole of the 40 gallons of cream separated, was also collected.

Advantage was taken also to run a series of tests on cream separated from milks which had been pasteurised at temperatures other than 178° F. to 180° F. The machine was adjusted to pasteurise at recorded temperatures of 164° F., 170° F., 175° F., and 185° F. Owing to a shortage of market milk at the time, the creams made with milk pasteurised at 170° F., 175° F., and 185° F. were obtained from milk intended to be used for butter manufacture. A sample of this milk was collected for examination, and also a sample of cream separated from this raw milk. All cream samples were taken after 10 gallons of cream had been separated in order to ensure that there should be no contamination with cream already in the pipe-line. The following table gives the particulars of the results of the tests performed on the samples collected:—

RESULTS OF TESTS PERFORMED ON SAMPLES OF CREAM.

Sample No.	Particulars of Sample.	Fat.	Enzyme reactions used for determination of Pasteurising Temperature.		Pasteurising Temperature.	
			Storch Peroxidase Test.	Kay and Graham's Phosphatase Test. Lovibond Blue Units using 10 m.m. Cell.*	As recorded on the Factory Thermometer.	Corrected.
		%			°F.	°F.
1	Raw Milk	...	Strong Positive	14	......	......
2	Pasteurised Milk from No. 1......	...	Negative (S. Positive on standing).	1·3	179	180
3	Cream separated from No. 2	48	,, ,, ...	1·6	179	180
4	Skim Milk from No. 2	...	,, ,, ...	1·2	179	180
5	Raw Milk	...	Strong Positive	11	......	......
6	Pasteurised Milk from No. 5	...	Negative (S. Positive on standing).	1·3	179	180
7	Cream separated from No. 6	46	,, ,, ...	1·4	179	180
8	Skim Milk from No. 6	...	,, ,, ...	1·2	179	180
9	Composite sample of 40 gallons Cream.	46·5	,, ,, ...	1·5	179	180
10	Cream	47	Strong Positive	1·5	164	165
11	Raw Cream	52	,, ,, ...	20	......	......
12	Cream	48	Positive........................	2·0	170	171
13	Cream	45	Negative (S. Positive on standing).	1·8	175	176
14	Cream	44	Negative	1·3	185	186
15	Raw Milk from which were separated Nos. 12, 13, and 14.	...	Strong Positive	12	......	......

* As a 13 m.m. Lovibond Cell was not available, results are given as obtained in a 10 m.m. Lovibond Cell.

The Kay & Graham Phosphatase Test was performed, using 0·5 ml. of milk. The amount of cream taken for the test was determined by the fat content.

The thermometer being used in the pasteuriser was compared with a standard thermometer having an N.P.L. Certificate, at temperatures of 175° F. and 180° F. The Pasteuriser thermometer was found to be reading 1° F. low, *i.e.*, a recorded reading of 175° F. was 176° F., and 180° F. was 181° F.

As a result of work performed during this investigation, it was found that cream prior to the investigation was being inadequately pasteurised. No subsequent trouble has been experienced, the samples collected later conforming with the results of the work given above.

APPENDIX III.

DETERMINATION OF THE QUANTITY OF ALCOHOL CONTAINED IN HUMAN URINE AND BLOOD IN THE PRESENCE OF ACETONE.

By S. G. Walton, F.A.C.I. and R. G. O'Brien, A.S.T.C., A.A.C.I.

In an appendix to the report of the New South Wales Government Analyst for the year 1935, the authors [1] described a method, using simple apparatus, for the determination of the quantity of alcohol contained in human urine and blood. Substances likely to be present in blood and urine, and which would be estimated as alcohol by the method described, are acetoacetic acid and acetone. Substances which are unlikely to be present, but which would, if present, also cause interference are aldehydes, such as paraldehyde, acetaldehyde, etc. Acetoacetic acid is decomposed at boiling temperature into acetone. Paraldehyde is decomposed into acetaldehyde during the process of distillation from acid solution. In the absence of aldehydes as tested for by using Schiff's reagent, it can be assumed that the only likely interfering substance would be acetone.

Deniges [2] found that acetone boiled with mercuric sulphate and sulphuric acid formed a crystalline precipitate having twenty times the weight of acetone. The test is sufficiently accurate to detect and estimate fractions of a milligramme of acetone in the presence of considerable quantities of alcohol. By applying Deniges test to portion of the distillate used for estimating alcohol, the presence or absence of acetone can be established, and if present the amount can be accurately determined and a correction applied to the alcohol estimation.

Method used for the detection and estimation of acetone [3]—

Solutions used :—

(i) Mercuric Sulphate : 7·3 grammes of pure red mercuric oxide dissolved in 1 litre of 4N Sulphuric Acid.

(ii) Sulphuric Acid : 500 ml. sulphuric acid sp. gr. 1·83 diluted to 1 litre with water and adjusted to 17N strength.

Method.—Place in a 500 ml. Pyrex Erlenmeyer flask 10 ml., or a suitable quantity, of the distillate obtained from blood or urine as previously described[1]. Add 115 ml. of water, or sufficient to make the total volume 125 ml. Add 10 ml. 17N sulphuric acid and 35 ml. of mercuric sulphate reagent. Connect the flask to a reflux condenser having a straight condensing tube 8–10 mm. in diameter. Heat to boiling and boil gently for 30 minutes. Filter the precipitate through a tared Gooch or sintered glass crucible. Wash with 200 ml. cold water, dry at 110° C. for 1 hour, and weigh. Acetone equals one-twentieth of the weight of the precipitate. If desired, the precipitate may be dissolved in normal hydrochloric acid and the dissolved mercury titrated with potassium iodide. Mercuric-sulphate-acetone precipitate contains 76·9 per cent. of mercury[4].

Table I gives some results obtained by the gravimetric method, using varying quantities of alcohol and acetone.

TABLE I.

Substance Used.		Weight of Mercuric-Sulphate-Acetone Precipitate.	Corresponding to Weight of Acetone.
Alcohol.	Acetone.		
mg.	mg.	mg.	mg.
20	Nil	Nil	Nil
Nil	20	394	19·7
15	5	98	4·9
18·4	1·6	30·4	1·52

The method is therefore accurate for the determination of acetone in the presence of alcohol. This test should always be performed in the distillate used for the estimation of alcohol, obtained in the manner previously described[1]. It can be performed concurrently with the alcohol determination. In nearly all cases the quantity of acetone present will be negligible and no correction of the figure obtained for alcohol will be necessary. In no case during the year 1937 when forty-four samples of blood and urine were examined for the alcohol content, was sufficient acetone present to warrant correction of the figure for the alcohol found.

Determination of Correction to be Applied to the Alcohol Content if Acetone is Present in the Distillate.—When a mixture of ethyl alcohol and acetone is oxidised with potassium dichromate and sulphuric acid, the reducing value of the mixture depends on the concentration of sulphuric acid, time and temperature;[5],[6]. Using the oxidation method previously described[1] and varying the time of heating from 20 to 60 minutes at a temperature of 78–80° C., the effect of varying the concentration of the sulphuric acid was studied, using alcohol, acetone, and mixtures of alcohol and acetone. Results are given in Table II. In every experiment, 15 ml. of N/5 potassium dichromate were mixed with 20 ml. of sulphuric acid sp.gr. 1·83, and, after cooling to 20° C., alcohol, acetone, or mixtures of these substances were added in a varying quantity of water and the reducing value of the addition was determined in the manner hitherto described[1], the temperature being maintained between 78–80° C.

Experiments were also conducted keeping the sulphuric acid content constant and varying the time of heating and the concentrations of alcohol and water. Results are also given in Table II.

TABLE II.

Substance Used.			Time of Heating.	Reducing Value Found Expressed as ml. N/10 $Na_2S_2O_3$.	Reducing Value Found Expressed as mg. Absolute Alcohol.	Remarks.
Alcohol.	Acetone.	Diluted With Water to ml.				
mg.	mg.		minutes.			
...	12	1·5	30	14·5	16·67	Keeping the time of heating constant, the reducing value of acetone varies with the concentration of sulphuric acid used.
...	12	3·0	30	11·55	13·28	
...	12	5·0	30	8·05	9·26	
...	12	7·0	30	5·25	6·04	
...	12	10·0	30	2·95	3·39	
...	12	15·0	30	1·45	1·67	
...	12	20·0	30	0·95	1·09	
...	12	30·0	30	0·55	0·63	
...	12	40·0	30	0·4	0·46	
...	12	1·5	20	12·9	14·83	Keeping the concentration of the sulphuric acid constant, the reducing value of the acetone varies with the time of heating.
...	12	1·5	30	14·5	16·67	
...	8	40·0	30	0·20	0·23	Keeping the concentration of the sulphuric acid and the time of heating constant, the reducing value of the acetone is proportional to its concentration at adequate dilutions.
...	12	40·0	30	0·35	0·40	
...	16	40·0	30	0·45	0·52	
...	32	40·0	30	0·85	0·98	
...	64	40·0	30	1·7	1·95	
12	...	1·5	30	10·5	12·07	The reducing value of alcohol is practically unaffected by dilution of the sulphuric acid between fairly wide limits.
12	...	10·0	30	10·4	11·96	
12	...	40·0	30	10·35	11·90	
12	...	50·0	30	10·35	11·90	
12	...	1·5	20	10·4	11·96	The reducing value of alcohol is practically unaffected by varying the time of heating from 20 to 60 minutes.
12	...	1·5	30	10·5	12·07	
12	...	1·5	60	10·4	11·96	
12	...	40·0	30	10·35	11·90	
12	...	40·0	60	10·35	11·90	
8	...	40·0	30	7·0	8·05	Keeping the concentration of the sulphuric acid and the time of heating constant, the reducing value of the alcohol is proportional to its concentration.
12	...	40·0	30	10·35	11·90	
24	...	40·0	30	20·8	23·92	
12	16	40·0	30	10·75	12·36	
16	32	40·0	30	13·65	16·85	
24	12	40·0	30	21·2	24·38	

Figure I is a graph showing the reducing action of 12 mg. of acetone, using 15 ml. N/5 potassium dichromate, 20 ml. sulphuric acid, and varying the water from 1·5 ml. to 40 ml.

Figure II is a graph showing the reducing action of acetone determined by the modified method.

Modified Method for the Determination of Alcohol in the Presence of Acetone in the distillate obtained from Blood or Urine.—As the result of this investigation, the original method has been slightly modified to eliminate, as far as possible, the effect of the reducing action of acetone, and a correcting factor has been evaluated to be applied if considered necessary to the alcohol figure obtained.

Method.—A suitable quantity of the distillate obtained as described[1], and varying from 1 ml. to 10 ml., according to the alcoholic content, is diluted to 40 ml. with distilled water. This is then added to a cooled mixture of 15 ml. N/5 potassium dichromate and 20 ml. concentrated sulphuric acid sp. gr. 1·83 contained in a 100 ml. acetylisation flask (fitted with a ground glass condensation tube 1 metre long and approximately 1 c.m. in diameter). The flask is immersed in a water bath kept at a temperature of 78 to 80 degrees C. for 30 minutes. It is then removed from the bath and the contents transferred to a 600 ml. flask. The acetylisation flask is washed three times, with 2 portions each of 100 ml. and 1 portion of 25 ml. of distilled water, respectively, and the washings added to the 600 ml. flask. The contents of the flask are cooled quickly to room temperature, ~~and a~~ further 230 ml. of distilled water added, making an approximate volume of 500 ml. About 1 gramme of solid potassium iodide is now added, and the liberated iodine is titrated with N/10 sodium thiosulphate solution, starch being used as indicator. Note the number of ml. of N/10 $Na_2S_2O_3$ used (*b*).

A blank experiment is run concurrently, using the same quantity of N/5 potassium dichromate and of concentrated sulphuric acid, and using 40 ml. of distilled water. Note the number of ml. of N/10 $Na_2S_2O_3$ used (*a*).

FIG. II

Graph showing reducing of Acetone determined by modified method

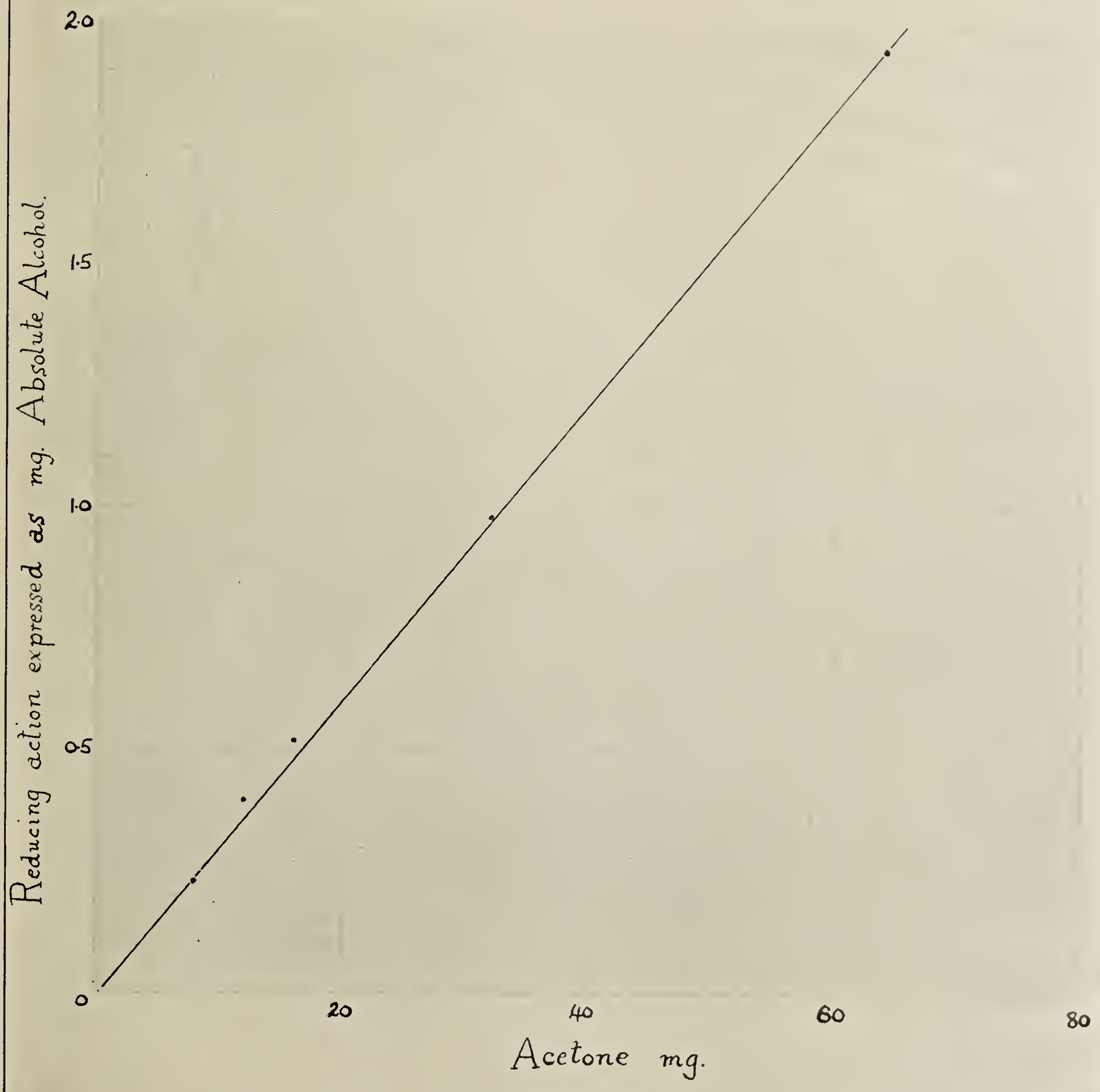
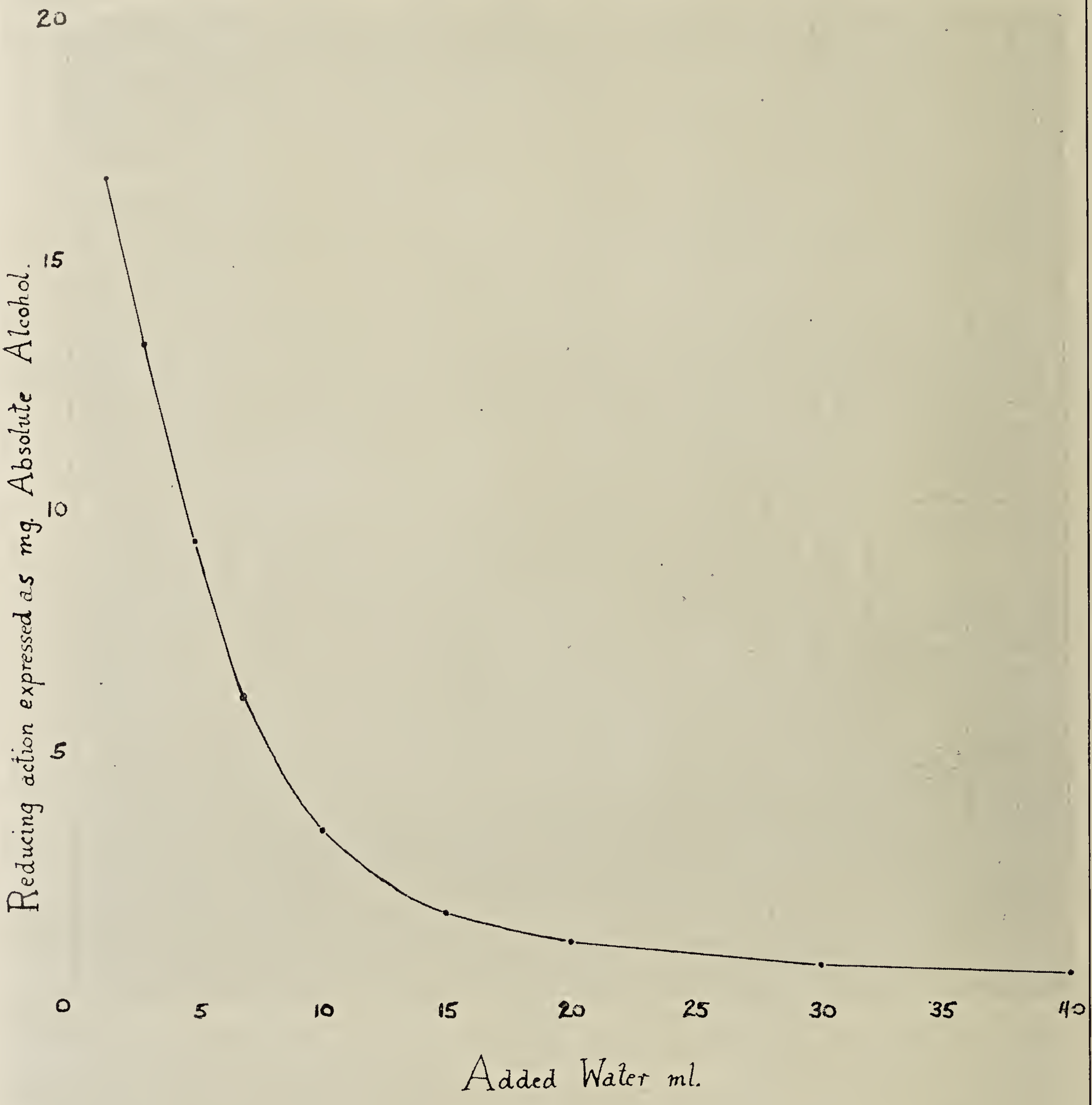


FIG. I.

Graph showing reducing action of 12 mg. Acetone on 15 ml N/5 Potassium Dichromate, 20 ml. Sulphuric Acid and Water varying from 1·5 ml. to 40 ml. 30 minutes heating. temperature 78–80°C.



Then mg. of absolute alcohol in the amount of distillate used = $(a - b) \times 1{\cdot}15 - y$.

y is the correction used in the presence of acetone and determined by the mercuric-sulphate method. For each mg. of acetone present subtract 0·029 mg. of absolute alcohol, *i.e.*, y = mg. of acetone × 0·029.

Assuming that 100 ml. of urine had been finally distilled to 30 ml. and 5 ml. of this distillate oxidised as described, with the result that 5 mg. of acetone were found in 5 ml. of distillate by the mercuric-sulphate method, then mg. of absolute alcohol in 5 ml. of distillate equals

$$(a - b) \times 1{\cdot}15 - 5 \times 0{\cdot}029$$

or mg. of absolute alcohol in 100 ml. of urine equals

$$\frac{30}{5}\left((a - b) \times 1{\cdot}15 - 5 \times 0{\cdot}029\right)$$

Summary—

(1) Deniges' Mercuric Sulphate method is suitable for the accurate estimation of acetone in the distillate of blood or urine.

(2) A method of analysis is described whereby the amount of alcohol in urine or blood can be accurately determined in the presence of acetone.

(3) It is found that by using a suitable concentration of sulphuric acid, potassium dichromate oxidises alcohol quantitatively, but has only a very slight action on acetone.

(4) Using the oxidation reaction described a subtraction of 0·029 mg. of alcohol should be made for each mg. of acetone present.

(5) It is unlikely that, using the method described, a correction of more than 1 mg. of absolute alcohol will ever have to be made due to acetone.

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[4] D. D. Van Slyke and R. Fitz.; J. Biol. Chem., 1917, vol. 32, p. 455.

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PURE FOOD ACT, 1908.

REPORT OF THE CHIEF INSPECTOR ON THE GENERAL ADMINISTRATION OF THE PURE FOOD ACT, 1908, FOR THE YEAR ENDED 31st DECEMBER, 1937.

Staff.

Chief Inspector, C. V. Francis, M.R. San. I.; Senior Inspector, G. A. Griffin; 11 Metropolitan Inspectors; 2 Country Inspectors, and 2 Assistant.

I submit herewith particulars of the work performed by the staff of the Pure Food Branch for the year ended 31st December, 1937. This work includes the supervision of food and drugs for sale and the premises in which they are prepared, stored, etc., the equipment, appliances, vehicles, etc., connected therewith, together with the incidental duties necessary to be carried out in order to secure the wholesomeness, cleanliness, and freedom from contamination of food and drugs, and compliance with the legal provisions, as set out in the Act and Regulations thereunder.

Milk.—This important food was again the subject of special attention. The number of samples taken throughout the State for analysis, by officers of the Branch, was 16,043, of which only 186 (slightly over 1·16 per cent.) were not in accordance with the standard. These figures indicate a definite progressive improvement during the past few years in the quality of the milk supply. Prosecutions totalled 137, and fines and costs imposed amounted to £390 5s. On page 16 details are given by the Government Analyst of all samples of milk examined in the Chemical Laboratory during 1937, with particulars of the adulterations detected.

Cream.—Samples of cream submitted for analysis numbered 135, of which only three were below standard. In respect of the latter, prosecutions were instituted against certain cafe proprietors, and convictions were obtained. The cream was supplied to customers in small jugs for use with coffee, and it was contended by the management that standard cream was too thick to properly mix with coffee, hence the dilution with milk.

Butter.—An improvement in the quality of butter was shown, so far as the moisture content was concerned. Of fifty-eight samples taken for analysis, only six contained excessive moisture, and this in very small quantities.

Meat.—During the year 8,192 samples were submitted for analysis, this being the largest number purchased in any one year since the Act came into force. There were 220 prosecutions and 149 warnings for non-compliance with the standard—in almost every case an excess amount of permitted preservative in sausage meat or the presence of preservative where prohibited being responsible. Fines and costs imposed amounted to £499 2s.

It is regrettable that magistrates fail, in many cases, to take a more serious view of the addition of prohibited preservatives to meat, especially in the case of tripe and brains, a food so often consumed by invalids.

"Smoked" Legs of Mutton.—Legal proceedings were successfully taken against certain butchers for selling artificially-coloured legs of mutton as "smoked mutton," thus giving the public a false impression as to the nature of the food.

Poultry.—Arrangements were made during the year to examine poultry at auction at the Municipal Poultry Markets, and, as a result, 1,832 birds were destroyed as unfit for human consumption.

Fish.—Several instances of filletted fish being mis-described were met with, and a trader was successfully prosecuted for selling smoked Australian salmon as New Zealand cod.

Bread.—Forty-seven samples were submitted for examination, two convictions being obtained and fines imposed for the sale of wheatmeal bread containing an excess of white flour. The detection of this form of adulteration should be simplified by a new regulation which specifies the amount of crude fibre to be present.

Prosecutions were fairly numerous for failure to protect bread during delivery to customers, these offences being principally due to the neglect of employees.

During the year the Government appointed a Standing Committee, on which this Department was represented, to consider certain aspects of the bread trade in general.

Ice Cream, Ices, and Ice Blocks.—One hundred and seventy-nine samples were submitted for analysis, and four prosecutions were successfully undertaken (in addition to three warnings), in respect of milk-fat deficiencies. The quality of the ice cream in the Metropolitan Area can generally be classed as good.

Dates.—Large quantities of dates were found to be unfit for food, and it was necessary to have destroyed 775 boxes, weighing 25 tons 17 cwt.

Arsenical Sprays.—Further samples of fruit and vegetables were obtained for estimation of the amount of poisonous spraying materials present, with a view of controlling the practice. The co-operation of the Department of Agriculture was sought in this connection.

Canned Peas.—A sample, manufactured in another State, was submitted for analysis and found to contain forbidden colouring matter in the form of zinc. A conviction was obtained and a fine imposed.

Spirits.—Action was taken concerning the misuse of the terms "overproof" and "O.P." on the labels of containers of underproof rum. Several hotelkeepers were convicted for such misstatements.

Steps were also taken to prevent the false declaration of country of origin appearing on bottles of whiskey.

A complaint concerning the presence of methylated spirits in a sample of whisky submitted to the Department proved to be without foundation.

A.P.C. Preparations.—Action was taken to investigate the labelling and other requirements controlling the sale of these preparations. Apart from minor labelling breaches, the position was satisfactory. One prosecution was instituted on account of a misstatement concerning the proportions of the declared drugs.

Disinfectants.—Continued attention was given concerning the labelling of this article, and it now appears to be in a satisfactory condition.

Several instances were met with of disinfectants being exposed for sale in branded food containers, and convictions were obtained. In one instance a packer was using bottles branded "Scott's Emulsion Cod Liver Oil," and another was using bottles branded either "Whisky" or "Benedictine."

Fruit and Vegetable Markets.—Premises in the Metropolitan, Newcastle, and other districts used for the wholesale marketing of fruit and vegetables were given special attention resulting in a considerable improvement in the prevailing conditions. In Sydney, the new Municipal Markets, the construction of which is almost completed, will materially lessen the likelihood of contamination of food exposed for sale therein.

Fancy Names.—There is a growing tendency for manufacturers to apply misleading fancy names to food mixtures, and it was found necessary to restrict the use of such terms as "Cream," "Jelly Cream," "Butter," and "Milk Jelly Crystals."

Amended Regulations.—During the latter part of the year revised regulations under the "Pure Food Act, 1908," came into force, and should prove of great benefit. Standards are provided, or amended, for bread (and varieties thereof), tripe, rennet, milk-chocolate, salt, ice-blocks, etc. A standard was also laid down for enamel-ware, excluding the use of poisonous glazing materials. Other useful amendments have been made dealing with the handling of food in general.

Quackery—Advertising of Patent Medicines, etc.—A good deal of work, necessarily restricted on account of the limited available powers, was carried out in connection with this matter.

Costly advertising campaigns are apparently being conducted concerning the alleged merits of competitive patent medicines, each firm endeavouring to surpass its competitors in the claims made, either by testimonials or otherwise. Misleading statements concerning many of these preparations continue to be made through radio broadcasts.

Foods (Other than Milk) and Drugs submitted for Examination.—The attached table gives a list of the wide range of food and drugs which were submitted by this branch during 1937, the prosecutions undertaken in connection with adulterated samples being summarised in the table.

The total number of samples of food (including milk) and drugs submitted by officers of this branch during the year was 25,605.

Inspections of Premises Used for the Preparation, Sale, or Storage of Food.—In 1937, inspections were made of 8,781 food premises in various parts of the State. Prosecutions for failure to keep premises clean numbered twenty-six, and fines and costs imposed amounted to £124 18s.

Legal Proceedings.—A total of 457 prosecutions was undertaken in 1937, the fines and costs amounting to £1,174 16s.; 445 of these prosecutions were under the "Pure Food Act, 1908," and the fines and costs totalled £1,143 11s.

There were twelve prosecutions under other Acts, as follows: Venereal Diseases Act, 1918 (8); Nurses' Registration Act (1); Private Hospitals Act (2); Dentists' Act (1). The fines and costs imposed amounted to £31 5s.

Details of the work carried out in 1937 are given in the attached sheets.

C. V. FRANCIS,
Chief Food Inspector.

Table 1.—Summary of Work performed by Pure Food Officers for the year ended 31st December, 1937.

Milk Samples.

Analysis of Samples of Milk.	1936. Samples taken by—			1937. Samples taken by—		
	Departmental Officers.	Municipal and Shire Council Inspectors.	Total.	Departmental Officers.	Municipal and Shire Council Inspectors.	Total.
Number of samples taken from all parts of the State	14,104	5,401	19,505	16,043	5,038	21,081
Number of samples below standard	202	139	341	186	102	288
Number of warnings	81	55	136	49	28	77
Number of prosecutions	121	84	205	137	84	221
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Amount of fines and costs	316 5 0	189 5 6	505 10 6	390 5 0	240 15 0	631 0 0

Food (other than Milk) and Drugs.

Number of samples taken from all parts of the State	9,562
Number of warnings	262
Number of prosecutions	238
Amount of fines and costs	£533 8s.

Food Unfit for Consumption, Seized and Destroyed, Comprised :—

63 tons 8 cwt. 2 qr. 16 lb.; bottles, 306; tins, 25,163; packets, 61,436; poultry (birds) 1,832.

Inspection of Premises Used for Preparation, Sale or Storage of Food.

Number of premises inspected in all parts of the State	8,781
Number of notices issued	788
Number of prosecutions	26
Amount of fines and costs	£124 18s.

Table 2.—Summary of Legal Proceedings, 1937.

	Prosecutions.	Fines and Costs.
Breaches of Pure Food Act, 1908, and Regulations—		£ s. d.
Adulterated milk	137	390 5 0
Adulterated food and drugs	238 (33 pending).	539 10 0
Unclean premises	26	124 18 0
General breaches	44	88 18 0
	445	1,143 11 0
Breaches of Other Acts and Regulations—		
Breaches of Venereal Diseases Act	8	4 7 0
Breaches of Nurses' Registration Act	1	7 18 0
Breaches of Private Hospitals Act	2	8 4 0
Breaches of Dental Act	1	10 16 0
Grand Total	457	1,174 16 0

Table 3.—Summary of Work carried out by Pure Food Officers under the Pure Food Act, 1908, from the date of its operation (October, 1909) to 31st December, 1937.

	No. of Premises Inspected.	Total Number of Samples Taken.	Total below Standard.	Prosecutions Undertaken.	Amount of Fines and Costs.
					£ s. d.
Premises inspected	231,718	...	...	2,399	12,128 16 6
General breaches of Act	...	...	...	1,815	5,805 8 6
Milk samples	...	218,702	8,389	4,446	20,215 16 1
Food and drug samples	...	65,873	8,259	4,772	14,007 8 6
Food and drug seizures	...	...	...	414	1,729 10 4
	231,718	284,575	16,648	13,846	53,886 19 11

ANNUAL REPORT OF THE ACTIVITIES OF THE SANITARY BRANCH DURING THE YEAR ENDED 31st DECEMBER, 1937.

Staff.—Chief Inspector, Mr. G. A. Garrow, M.R. San. I., T.P.; Senior Inspector, Mr. S. L. Parsons; 10 Certificated Inspectors, and 1 Certificated Inspector and Licensed Surveyor.

General.—Routine investigations and inspections made by officers of this Branch during 1937 disclosed that while the majority of municipal and shire councils are alive to their obligations and duties in respect of public health administration, a certain number are negligent of their responsibilities, and in these districts careful and frequent supervision is necessary. As a result of inspections made in 1937, several councils have been requested to appoint a certificated health inspector.

During the inspections it was found that two councils were employing unqualified inspectors, thereby contravening the provisions of the Public Health (Amendment) Act of 1921.

COUNTRY AND METROPOLITAN DISTRICTS.—ROUTINE AND GENERAL INSPECTIONS, ETC.

Towns.—Eleven primary inspections and thirty-three reinspections were made of towns, reports thereon submitted and recommendations for requisite action were forwarded to the respective local authorities.

Following upon these inspections, a number of councils have appointed, or are taking steps to appoint, a certificated health inspector. In several other cases, sanitary services have been or are being installed.

An influx of population to Captain's Flat, following an increase in mining activities there, made it necessary to inspect the township. As a result of the conditions found the local authority was requested to have a nightsoil pan removal service installed, and to arrange for appointment of a certificated health inspector.

Insanitary Buildings.—Inspections were made of 299 buildings. In sixty-two instances the condition of the buildings was such as to warrant the issue of closing order certificates, and the councils concerned were requested to take action and close the buildings. In other cases the councils were informed of the improvements considered necessary to place the buildings in a habitable condition, and requested to notify this office of the result of action taken.

Shop Premises.—Inspections were made of 151 shop premises (butchers, grocers, etc.), and where improvements or alterations were found necessary, the council concerned was requested to take action. In several cases legal proceedings were instituted against the trader.

Barbers' Shops.—Seventy-three barbers' shops were inspected. In every case in which the condition of the premises, arrangements for sterilizing the instruments, arresting bleeding, etc., were found unsatisfactory, the council concerned was informed, and requested to cause specified improvements to be carried out. In one or two cases it was found necessary to prosecute the trader.

Dentists' Rooms.—Several dentists' rooms were inspected and reports concerning them were forwarded to the Dental Board.

District and Private Hospitals—Public and Private Schools.—Inspections were made of sixty-four separate premises, and reports and necessary recommendations submitted.

Public Halls and Theatres.—Thirty-five inspections were made and reports and recommendations submitted. Several complaints were investigated, and five air tests were made. Plans of proposed alterations to premises were also examined and reported on.

Hotel Premises.—Ninety-four hotel premises were inspected, and reports and recommendation submitted to the Licensing Authorities.

During the year officers of this Branch were called upon to give expert advice, both in and out of court, on many matters (including sewage treatment plants) relating to hotel premises.

The raising of hotel premises to a reasonably good standard is a subject to which attention is also given by this Branch. Where it appears necessary that a sewage treatment plant should be installed, the matter is referred to the Licensing Authorities.

Swimming Pools.—Sixteen swimming pools and treatment plants, and several sites for proposed pools were inspected, and reports thereon submitted. Forty-nine samples of pool water were procured and submitted for chemical and bacteriological examination.

It is the practice of this Branch to instruct perions in charge of swimming pools in matters relating generally to the maintenance of the pool, the plant, and the premises, and in the method of procuring and despatching samples of water to this department for chemical and bacteriological examination.

Cattle Slaughtering and Diseased Animals and Meat Act, 1902.—Inspections were made of 165 slaughtering premises and two sites for proposed abattoirs; and reports and recommendations were forwarded to the local authorities concerned for necessary action. In some cases it was found necessary to institute legal proceedings against traders.

Investigations were made regarding increase of fees, and alteration of existing increased fees, under Section 15 of the Act. In one case of fees were increased, and in another readjusted. In two other cases the matter is under consideration by the councils concerned.

Plans of a proposed abattoir were examined and a report submitted. There is every likelihood that the abattoir will be erected.

Other councils are giving consideration to the establishment of abattoirs, or in lieu thereof, of taking advantage of Section 15 of the Cattle Slaughtering Act, with a view to increasing the slaughtering fees and appointing a qualified inspector to supervise the meat supply.

Noxious Trades Act, 1902.—Eight hundred and one inspections and re-inspections of noxious trades premises were made and reports and recommendations for necessary action submitted to the local authorities concerned.

Several plans and sites of proposed noxious trades premises were examined and advice given thereon,

Fifty-two suspected premises were visited, and thirty-six unlicensed traders located, when suitable action was taken.

The provisions of the Noxious Trades Act were extended to three additional areas (Coonabarabran, Willembong and Forbes) in 1937.

Removal of Dead Stock from Flemington.—14,276 dead animals were removed from Flemington Sale Yards and Trucking Yards, by a private firm to their knackery premises. No complaints were received in connection with this work.

During a thunderstorm ninety-nine milking cows at a Botany dairy were electrocuted. The animals were removed as speedily as possible, and were satisfactorily disposed of on knackers' premises. No complaints were received in connection with their destruction.

Flock and Bedding Material.—Several samples of rags, flock, and bedding materials were obtained and submitted for examination. In the course of such collections, an inspection was made of the premises, There appears to be definite improvement in the class of materials employed for flock making, although in a few instances it was necessary to take legal action in respect of materials that did not comply with the standard.

Camps, Recreation and Show Grounds, Racecourses, Cemeteries, etc.—During the year 374 inspections were made, and necessary reports and recommendations were submitted to the controlling authorities.

Owing to unsatisfactory conditions found during inspection of certain cemeteries, action has been taken to prohibit further burials therein or in portions thereof. In one case it was found necessary to require the gazettal of Regulations to enable control of burials.

Sale Yards.—Twenty-four inspections were made of sale yards, and necessary recommendations have been forwarded to local authorities.

Owing to likely complications, this Department's advice was sought regarding the suitability or otherwise, of a site for a proposed sale yards. Inspections were made of the site and alternate sites, and reports furnished. At a conference of interested parties, a site was recommended, subject to certain specified conditions being observed.

Sanitary Depots and Proposed Sites.—Two hundred and ninety-seven inspections of depots were made and reports and recommendations submitted. In some instances legal proceedings were instituted against the sanitary contractors. Thirty-six proposed depot sites were inspected; and nineteen, owing to their unsuitability, were not recommended for approval.

In nine cases recommendations were made for disposal of pan contents in ploughed furrows.

Fifty-one investigations regarding nightsoil and garbage disposal were made, and necessary recommendations were forwarded to the local authorities concerned.

Scavenging Districts.—Eighteen descriptions of plans of proposed boundaries were examined, and thirteen recommended for approval. In several instances the descriptions submitted by councils had to be either amended or recast in this office before being recommended for approval, as the submitted descriptions did not compare favourably with the plan.

Septic Tanks and Sewage Treatment Works.—Four hundred and fifty-five plans of proposed septic tanks were examined, three hundred and thirty-two sites were inspected and reports and recommendations submitted. In several instances it was necessary to amend the plan as the design of the septic tank, or its capacity, could not be recommended. In other cases the proposed installations could not be recommended owing to unsuitability of the site, or the design.

Three hundred and sixty-four inspections of septic tanks and effluent disposal areas were made. In a number of instances it was necessary to require that the installation should be placed in a satisfactory working condition, or that the effluent disposal area should be given more attention.

Several plans of proposed sewage treatment plants for hospitals were examined and reported on.

Ponding of the effluent from a public sewage treatment works is being carried out on trial. If results are found unsatisfactory, chlorination of the effluent will be recommended.

Public and Private Water Supplies.—Thirty-one investigations were made, and a number of samples were procured for examination. Nine investigations were made concerning alleged pollution of watercourses, and any necessary action was taken.

Collection of samples of Water, Sewage Effluents and Soils for Chemical and Bacteriological Examination.—One hundred and seventy samples of water, one of sewage and eighteen samples of soil were obtained during the year and submitted for chemical analysis or bacteriological examination.

Garbage Incinerators.—Twenty-five inspections were made of incinerators, and reports and recommendations were forwarded to the councils concerned.

Unhealthy Building Land.—Two hundred and fifteen inspections and fifty-nine surveys were made of land considered to be unfit for building purposes. One hundred and twenty-five plans and sketches were prepared, and seventeen improvement schemes designed. Four notices were gazetted under Section 55 of the Public Health Act, 1902, and one notice was revoked, the land having been made fit for building purposes.

The surveys occupied a considerable amount of time as it was necessary to obtain data to define the boundaries of the areas proposed to be notified, and at the same time design and specify appropriate schemes for improvements which would eventually put the land into a usable condition.

The location of the lands principally dealt with in the 1937 surveys were in Mascot Municipality (Sutherland and Coward Streets); Central Illawarra Shire (Kully Bay and Lake Illawarra); and Sutherland Shire (Heathcote and Price's Avenue, Woronora River).

A large area at Ricketty-street, Mascot, has been surveyed, plans prepared and a scheme of improvement designed; and at Maru on the shores of Lake Macquarie, a large area of land has been surveyed.

In connection with 3,873 inquiries from solicitors and others regarding notified land, an amount of £484 2s. 6d. was received from search fees at 2s. 6d. each.

Infectious Diseases.—One hundred and nine investigations of infectious diseases were made, and one hundred and fifty-four specimens of fæces and urine were collected for examination.

Rat Infestation.—Four thousand four hundred and twenty-five rats were examined in the Microbiological Laboratory, and were found free from plague. These rats are trapped and submitted for examination by rat-catchers employed by this department, the Maritime Services Board, and other authorities controlling the shipping water fronts, grain storage depots, etc.

Considerable attention was given during the year to methods of rat destruction, and advice and assistance was afforded to other departments as well as to the public generally for clearing rats from infested buildings.

The keeping of premises free from rats is a responsibility which devolves upon the owner or occupier, whether premises are in use for household or for trade purposes.

Nuisances.—Investigations were made into three hundred and eighty inquiries and complaints concerning drainage, and other alleged nuisances.

Sorting of Dead Wool.—Premises on which this process is carried on are being kept under observation.

Boarding of Ships.—In connection with a proclamation issued under the Public Health (Amendment) Act, 1937, in consequence of an epidemic of Infantile Paralysis in other States, one hundred and thirty-three ships were boarded for the purpose of examining certificates, and supplying information as to precautions to be observed.

Legal Proceedings.—Evidence given on behalf of various authorities necessitated attendance at the courts, including the Supreme Court and the Licensing Court.

Prosecutions.—In connection with seventy-eight prosecutions instituted for breaches of various Acts, fines and costs amounting to £405 6s. 6d. were imposed.

Amendments to Acts, Regulations and Ordinances.—From time to time proposed amendments to the Local Government Ordinances have been submitted to and approved by the Board of Health under Section 4 of the Public Health (Amendment) Act, 1915.

The Housing (Further Provisions) Act, 1937, amended certain sections of the Public Health Act, 1902–32.

Staff Changes.—Mr. E. M. Jackson, who had been appointed to the departmental inspection staff in 1907, retired after thirty years service, and in September Mr. H. V. Fowler was appointed to the vacancy.

GEO. A. GARROW,
Chief Sanitary Inspector.

PRIVATE HOSPITALS ACT, 1908.

Report on the operation of the Act for the year ended 31st December, 1937, by B. R. Overend, M.B., Ch.M., D.P.H., D.T.M., D.T.H., Assistant Medical Officer of Health.

The number of private hospitals licensed in New South Wales as at 31st December, 1937, was 596, having a total of 5,468 beds, this being a reduction of 54 licenses and 358 beds compared with the figures for the previous year.

Of the 596 licensed private hospitals, 229 with a total of 3,001 beds were located in the Metropolitan area, and 367, having a total of 2,467 beds were situated in the country districts. The number of private hospitals in the Metropolitan Area decreased during the year by 24 with a decrease of 93 beds, whilst in the country there was a decrease of 30 hospitals and 265 beds.

Most of the private hospitals are small, only 15 being licensed to receive more than 20 patients at any one time, while in 447, the accommodation did not exceed 10 beds.

Of the 596 private hospitals licensed, 268 were for the reception of lying-in cases only, 50 for medical and surgical cases only, and 278 for the reception of all classes of cases.

Inspection of Private Hospitals.—The Departmental Supervisory Nurses have systematically carried out the work of inspection of private hospitals, both in the Metropolitan area and the Country districts. The results of the inspections are becoming more manifest each year in that there appears to be a general improvement in the management of the hospitals, and the regulations under the Act are being more closely observed. However, many resident managers still fail to keep their hospitals registers entered up to date, and in many cases there is a disposition to re-arrange accommodation without first obtaining the approval of the Board of Health.

Community Activities in connection with Private Hospitals.—The Bush Nursing Association of New South Wales and the Country Women's Association of New South Wales still continue to carry on the excellent work of maintaining hospitals for the benefit of residents in the more remote parts of the State.

Exemptions.—There were no hospitals holding an exemption in 1937.

Prosecutions.—There were three prosecutions under the Act during the year, and many warnings as to minor infringements of the Act had to be issued.

Sepsis connected with Pregnancy in Private Hospitals.—Of the 241 cases of Puerperal Sepsis notified during 1937, 54 were notified from private hospitals, compared with 60 in the previous year. In all cases they were isolated occurrences and investigation into each case showed no connection with other infected patients.

Rest Homes.—Although the keepers of these homes are not called upon to become licensed under the Act, the premises are inspected from time to time, and in most cases the reports on the manner in which they are being conducted, were good.

Assistance rendered by other Departments.—The thanks of this Department are due to the Commissioner of Police and the Registrar of the Nurses' Registration Board and their officers for their ready and able assistance in connection with the administration of the Private Hospitals Act.

TABLE I.—Showing Classification of Private Hospitals licensed at 31st December, 1937, according to nature of cases received, and the total number of beds provided by each class of hospital.

	Medical, Surgical, and Lying-in.		Medical and Surgical.		Lying-in.		Total.	
	No. of Hospitals.	No. of Beds.	No. of Hospitals.	No. of Beds.	No. of Hospitals.	No. of Beds.	No. of Hospitals.	No. of Beds.
Sydney and District	90	1,831	37	760	102	410	229	3,001
Country Districts	188	1,639	13	154	166	674	367	2,467
Total	278	3,470	50	914	268	1,084	596	5,468

TABLE II.—Showing Classification of Private Hospitals licensed at 31st December, 1937, with respect to size, as signified by the number of beds available.

	1.	2.	3.	4–5.	6–10.	11–20.	Over 20.	Total.
Sydney and District	14	19	21	34	56	48	37	229
Country District	22	38	47	80	116	56	8	367
Total	36	57	68	114	172	104	45	596

Comments on Tables I and II.—Table I.—From the figures given in Table I, it will be seen that hospitals licensed to receive all three classes of patients constitute the greater proportion of those licensed, amounting to 46·6 per cent. of the total, compared with 46·9 per cent. in 1936. Those private hospitals licensed for lying-in cases only constituted 44·9 per cent., compared with 45·2 per cent. in 1936, and those licensed for the reception of medical and surgical cases only formed 8·3 per cent. of the total compared with 7·9 per cent. last year. The number of beds available was greatest in those hospitals licensed for the reception of all classes of cases, amounting to 63·4 per cent. of the total beds, compared with 19·8 per cent. for beds in purely midwifery hospitals and 16·8 per cent. in medical and surgical hospitals.

Table II.—The number of 4–10 bed hospitals is still the largest in proportion of all those licensed being 47·9 per cent. of the total, and being a small decrease on the proportion of the total for the previous year.

HOSPITAL ADMISSION DEPOT; MEDICO-LEGAL SECTION, Etc.

REPORT OF THE GOVERNMENT MEDICAL OFFICER FOR SYDNEY FOR THE YEAR ENDED 31st DECEMBER, 1937.

Medical Staff.

Dr. C. E. Percy, Acting Government Medical Officer for Sydney; Dr. C. W. England, Medical Officer; *Depot Assistants*, 2; *Night Officer*, 1.

Medical Work.

Arrangement of Admissions to Hospitals and Homes and Outdoor Treatment.—The Depot is open for this purpose from 9 am. to 5 p.m., Monday to Friday, and from 9 a.m. to 12 noon on Saturday. At all other times a Night Officer is available.

During the year ending 31st December, 1937, 5,807 persons were admitted through the Depot to the various Metropolitan hospitals. 7,100 were admitted to the State Hospitals and Homes at Lidcombe, Liverpool, and Newington; 809 to the convalescent Homes at Camden and Vaucluse; and 794 persons were referred to the Metropolitan hospitals for outdoor treatment.

The examinations of persons entering convalescent homes, orphanages, etc., are carried out. 99 examinations were made during the year.

Applications by persons living in the country for admission to Metropolitan or Base Hospitals are dealt with.

Medical Examinations for State Government Departments.—These examinations were made as follows:—

(*a*) of persons claiming or receiving aid from the Child Welfare Department;
(*b*) for retirements from the Public Service on account of invalidity;
(*c*) pensioners under the Superannuation Act;
(*d*) of Pilots;
(*e*) to ascertain the fitness of officers to continue duty after reaching 60 years of age;
(*f*) examination of applicants for the Widow's Pension and for renewals of pensions;
(*g*) examination of boys for fitness to undergo courses of farm training;
(*h*) examination of returned soldier applicants referred by the Premier's Department for travelling concessions;
(*i*) examination of applicants for surgical appliances referred by the Chief Secretary's Department;
(*j*) examinations for fitness to hold Motor Driver's Licence (on behalf of the Transport Board).
(*k*) examinations of applicants for admission to the Public Service.

Some of the above persons were visited in their own homes by the Medical Officers.

2,009 such examinations were performed during the year 1937.

Medical Examination of Police Recruits.—773 recruits (probationary constables and police cadets) were examined during 1937. 301 were classed as fit at the first examination, and others were eventually classed as fit when their defects were remedied or when they reached the required physical standards.

On completion of twelve months' service all probationary constables are again examined at the Police Headquarters. 155 such examinations were performed in 1937.

Medical Supervision of Sick Police.—This is carried out daily by the Government Medical Officer at the Police Headquarters. The sick or injured members of the Force attend for treatment or for the purpose of reporting the progress of their illness. The average daily number of police on sick report for 1937 was 75·92

Any other matters concerning the health of the Police Force are also attended to.

Medical-Legal Work.

Examination of Alleged Rape and Criminal Assault Cases and Examination of Criminals.—These cases are examined at all hours, as it is usually desirable that they be examined as soon as possible after the offence. Examinations are made to determine any injury or to ascertain the mental condition of these persons. 104 examinations were made in 1937.

In addition, exhibits connected with these cases or with poisoning cases, etc., are seen before being sent to the Microbiological or Chemical Laboratory.

This work entails the attendance of the medical officers at the lower courts in the city and suburbs and at the Central Criminal Court and the Quarter Sessions for the purpose of giving evidence.

Work for the Coroner's Court.—The Government Medical Officer assists with the post-mortem work at the City Morgue in connection with suicides, murders, violent and uncertified deaths.

Lunacy Work.—The Reception House at Darlinghurst is visited daily by a medical officer for the purpose of examining persons detained there. 1,071 persons were certified as insane in 1937.

In addition, arrangements were made for the transfer of suitable cases to State Hospitals and Homes.

Vaccinations.—Members of the Police Force are vaccinated at the Police Depot during their course of instruction, and members of the general public at the Hospital Admission Depot. 306 vaccinations were performed in 1937.

The medical officers attached to this Branch are on duty at all hours and are liable to be called upon at any time by the Police Department for any urgent work of a medico-legal nature.

Ambulance Removals.—The Hospital Admission Depot arranges for the transport of patients to the various Metropolitan hosptials and to the State Hospitals and Homes. This work is carried out by the Central District Ambulance by means of its own ambulances or those of adjacent districts.

The removals carried out during 1937 totalled 12,333.

SECTION I.—B.

DIVISION OF MATERNAL AND BABY WELFARE.

ANNUAL REPORT FOR THE YEAR ENDED 31st DECEMBER, 1937.

Director: Dr. Grace J. Cuthbert.

PART I.—MATERNAL WELFARE.

The activities of the Division in the interests of maternal welfare have been carried out in the usual channels.

It is the conclusion of all authorities that for success in improving conditions, co-ordination of all units concerned in the welfare of the mother is absolutely essential; also that each unit should regard itself as part of the whole—no lone hand can be played.

In New South Wales there are four different units which are part of the fabric of maternal welfare, the medical profession, the nursing profession, the mother and her relatives, and the public.

The Medical Profession is represented by the University, the Health Department, the Committee for Investigation of Maternal and Infant Welfare, the obstetric specialists, most of whom are on the staffs of the teaching hospitals, and the general practitioner. These five groups attempt to produce a sound basis for successful midwifery practice. The standard of training of medical students can be favourably compared with that of any other country.

The University of Sydney has established a full-time chair of obstetrics. Professor J. C. Windeyer's keen interest, breadth of outlook, and co-operative spirit will greatly assist in the advances of new interests in the field of maternal welfare.

The Health Department administers only a limited field. In some of the Dominions, improvement in maternal mortality statistics is regarded as being due to greater powers over hospital administration and to the increased hospitalisation of their obstetric work.

The Committee for the Investigation of Maternal and Infantile Welfare, appointed by the B.M.A., represents the expert opinion of the medical profession on the methods for improving maternal welfare. Among their recommendations are the establishment of (1) a mobile blood-transfusion service, (2) consultative services, (3) universal distribution of a prenatal book along the lines of "Healthy Motherhood," now issued by this Department.

The obstetric specialists and staffs of the Metropolitan Obstetric Hospitals make every effort to improve conditions.

The general practitioners carry out a difficult task, frequently with no advantages from their surroundings or assistance, and should have recognition as the basic factor of efficiency in obstetric work.

The Nursing Profession is represented by the staffs of teaching, public and private hospitals, bush nurses, midwifery nurses in private practice, and the central organisation of the Nurses' Registration Board. On their skill, interest, and efficiency depend the progress that is being made in the standard of obstetric practice.

The Mother herself and her relatives, by their confidence and their implicit adherence to the instructions of the medical adviser, can protect the interests of the mother and help to prevent many of the dangers of childbirth.

The Public, which has various bodies representing its interest in this subject, creates a wider interest, and helps to disseminate the knowledge of those facilities which are available.

The facilities at the disposal of the public provided by this Department include prenatal clinics, of which there are ten. They are distributed to facilitate the treatment of mothers far distant from the public maternity hospitals, where they are to be confined, and for those who are unable to pay private fees for prenatal care. If every woman sought and received adequate antenatal care, the mortality would be greatly reduced, and much subsequent morbidity eliminated. This is proved by the extremely good results obtained by the Teaching Obstetric Hospitals in their "booked" cases. These clinics are conducted weekly at suburban Baby Health Centres by a supervisory nurse with medical supervision at varying intervals, once or twice per month, and one evening clinic weekly by the Director of this Division. The attendances for 1937 were 2,324. In all districts where it is practicable, this prenatal supervision should be a condition in receiving any social aid allowance. Attendances of expectant mothers at Baby Health Centres numbered 7,794 in 1937.

An attempt is made to co-ordinate the work of the clinics with those of the public hospitals and with private practitioners. The responsibility of making these clinics useful and successful depends on the public. The necessity for regular examination and instruction during the whole prenatal period is not grasped by many women. It is only by the mothers' regular attendance at such clinics that we can hope to reduce mortality and morbidity. This has been proved in all recent investigations into conditions affecting maternal welfare.

Revision and adaptation of the prenatal book, "Healthy Motherhood," which is published by the Health Department, has been commenced, but will be delayed until appropriate and authoritative data are available concerning physical education in obstetrics.

The great majority of women in Australia are attended by a medical practitioner at their confinements. It is interesting to note that among 31,086 New South Wales claimants for the Commonwealth allowance, which is payable to women whose income is not above £300, in the year ended June, 1937, 25,611 were attended by doctors. This allowance varies; for the first child it is £4 10s. 0d.; second and third child, £5 0s. 0d.; fourth and subsequent children, £7 10s. 0d.

The fuller knowledge of the pathology of the haemolytic streptococcus and its relation to puerperal sepsis, particularly in its mode of infection, demands readjustment and expansion of our regulations for the control of puerperal pyrexia and infection. Suitable readjustments are being investigated. New regulations regarding the wearing of gloves and masks by midwifes have been instituted by the Nurses' Registration Board.

The work of practising midwives and the conduct of private maternity hospitals is closely supervised by the departmental staff of supervisory nurses. During 1937 the department transferred to this staff the services of Miss C. M. Dickson, formerly Matron of the Prince Henry Hospital. She has taken over the supervisory services and acts as a liaison officer in many matters arising concerning other hospitals and nursing services. Her administrative experience is of great value.

The supervisory nurses continue to work in their particular areas in the State, and so assist in maintaining high standards of obstetric practice. Of these, two work in the metropolitan area, three in the country, and one in the Newcastle district. These nurses are all very experienced and hold their three certificates, general obstetric and infant welfare.

In addition to the six maternity hospitals and maternity wards attached to hospitals in the metropolitan area, there are thirty-eight district hospitals in New South Wales with maternity blocks or wards' and 546 private hospitals which are licensed to admit lying-in cases. Over 2,033 visits to these private hospitals and maternity divisions of hospitals and training schools were carried out by the supervisory nurses, and 1,057 visits were paid to midwives.

Avenues are being sought for the introduction of physical education in obstetric practice in New South Wales. Lecture demonstrations have been held throughout Britain by expert demonstrators. This is an important scheme in the prenatal and post-natal protection of the mother. The exercises devised and used under medical direction in Britain are based on the physiology and anatomy of the neuro-muscular mechanism of delivery. To quote Professor Windeyer, "No doubt that, if universally adopted, these methods would lessen the delays and difficulties of child birth in cases where there is no mechanical hindrance to birth by natural passages."

It has been suggested that research be undertaken into the effects of organised sport and games on women, especially in relation to maternity. Research is being carried out at the Teaching Hospitals into the toxaemias of pregnancy and puerperal sepsis.

Attention must once more be brought to the fact that puerperal sepsis is a notifiable disease, and that cases pf pyrexia due to infection of the genital tract must be notified by the medical practitioner. Failure to do so makes him liable to a penalty not exceeding £5.

The urgent necessity for post-natal facilities for the married mother has long been felt. Recently a property has been given for maternal and infant welfare, and it is proposed to convert this to that excellent purpose.

VITAL STATISTICS.

In 1937, in New South Wales, there were 47,497 live births and 1,452 still births, the live birth rate being 17·63 per 1,000 of population. (See Table I.)

TABLE I.—Births and Birth Rate.

Year.	Live Births.	Live Birth Rate per 1,000	Still Births.	Total Births.	Still Births per cent. of Total.
1927	53,858	22·40	1,666*	55,524	3·00*
1928	54,800	22·27	1,695*	56,495	3·00*
1929	52,672	21·04	1,629*	54,301	3·00*
1930	52,136	20·59	1,612*	53,748	3·00*
1931	47,724	18·67	1,476*	49,200	3·00*
1932	44,905	17·41	1,389*	46,294	3·00*
1933	44,195	16·98	1,367*	45,562	3·00*
1934	43,335	16·52	1,340*	44,675	3·00*
1935	44,676	16·89	1,401	46,077	3·04
1936	46,193	17·31	1,419	47,612	2·98
1937	47,497	17·63	1,452	48,949	2·97

* Estimated at 3 per cent. of total births (live and still).

Table II.—Puerperal Deaths—International Classification.

Year.	Live Births.	Deaths from Puerperal Causes, excluding Illegal Operations.	Maternal Mortality Rate per 1,000 Live Births, excluding Illegal Operations.
1927	53,858	306	5·7
1928	54,800	295	5·4
1929	52,672	245	4·7
1930	52,136	260	5·0
1931	47,724	243	5·1
1932	44,905	226	5·0
1933	44,195	212	4·8
1934	43,335	214	4·9
1935	44,676	230	5·1
1936	46,193	236	5·1
1937	47,497	198	4·2

The maternal death rate for New South Wales for 1937 is 4·2 per 1,000 live births. This is the lowest figure ever recorded; the figures have been on a comparable basis for over thirty years (*vide* Table II).

The low record for 1937 can be ascribed largely to a fall in the number of deaths from puerperal sepsis, and in a lesser degree to the decrease in the fatal termination of illnesses resulting from albuminuria and eclampsia. (See Table III.)

The various causes to which the puerperal deaths are ascribed are shown in the following table :—

Table III.—New South Wales—Deaths Incidental to Childbirth, 1931–1937.

Causes.	1931.		1932.		1933.		1934.		1935.		1936.		1937.	
	No.	Rate per 1,000 Live Births.	No.	Rate per 1,000 Live Births.	No.	Rate per 1,000 Live Births.	No.	Rate per 1,000 Live Births.	No.	Rate per 1,000 Live Births.	No.	Rate per 1,000 Live Births.	No.	Rate per 1,000 Live Births.
Accidents of Pregnancy......	24	·53	24	·53	26	·59	20	·46	13	·29	25	·54	27	·57
Puerperal Haemorrhage ...	33	·69	39	·87	31	·70	30	·69	39	·87	34	·74	43	·91
Puerperal Septicaemia	41	·85	26	·58	34	·77	39	·90	44	·99	45	·98	25	·52
,, ,, following Abortion or Miscarriage...	41	·85	33	·73	32	·73	24	·55	28	·63	37	·80	27	·57
Albuminuria and Eclampsia	53	1·11	61	1·36	51	1·15	64	1·48	60	1·34	51	1·10	43	·90
Phlegmasia Alba Dolens, Puerperal Embolism, Sudden Death	23	·48	16	·36	16	·36	11	·26	21	·47	21	·45	16	·34
Other Casualties of Childbirth	28	·58	27	·60	22	·50	26	·60	25	·56	23	·50	17	·36
Total	243	5·09	226	5·03	212	4·80	214	4·94	230	5·15	236	5·11	198	4·17
Illegal Operations	45	·94	50	1·11	34	·77	49	1·13	52	1·16	56	1·21	35	·74
Grand Total	288	6·03	276	6·14	246	5·57	263	6·07	282	6·31	292	6·32	233	4·91

The three major problem groups are puerperal haemorrhage, puerperal sepsis, and albuminuria and eclampsia.

The decrease in the incidence of death from puerperal sepsis can be ascribed to three factors. More universal adoption of early treatment by the sulphanilamides has been instituted. Also the recognition of the mode of infection by the haemolytic streptococci, and the possibility of the origin of infection being either from the nose or throat of an attendant nurse, or from the unsatisfactory sterilisation of routine utensils. Thirdly, figures in other streptococcal infections show a relative tendency to decline in the virulence and infectivity of the haemolytic streptococcus.

Puerperal haemorrhage, however, shows a serious increase. The provision of mobile blood transfusion services should greatly improve the successful treatment of this complication. The urgent necessity for more assistance, and the lack of facilities for transfusion, often forces the decision of transport of an already shocked and dehydrated patient.

Illegal operations in the State of New South Wales show a total of 35 deaths for 1937. This represents 2·22 per cent. of female deaths at ages between fifteen and forty-four, vide Table IV. Surely this is a startling figure. It is a matter of great regret that women do not realise the dangers to life and health from artificial termination of pregnancy. It is time the public realised that any qualified or unqualified person who will assist any women to artificially terminate pregnancy without suitable reason and consultation is dishonest and corrupt. The deaths from puerperal septicaemia following abortion and miscarriage, 27, and the accidents of pregnancy, 27, should probably be added to those of illegal operation, if we wish to recognise the true position regarding this menace to the civilised world. The greatest danger lies in the fact that the major proportion of these deaths are those of married women with young families. This is in spite of the fact that a birth control clinic carries on active, efficient, work under the auspices of the Racial Hygiene Association.

Table IV.—Relative Extent of Puerperal Deaths.

Year	Deaths from Illegal Operations.			Total Puerperal Deaths (including Illegal Operations).		
	Number.	Proportion Per Cent. of		Number.	Proportion Per Cent. of	
	Age 15–44 Years.	Total Female Deaths at All Ages.	Total Female Deaths at Ages 15–44 Years.	Age 15–44 Years.	Total Female Deaths at All Ages.	Total Female Deaths at Ages 15–44 Years.
1927	46	·47	2·43	347	3·59	18·35
1928	32	·32	1·73	319	3·30	17·25
1929	33	·31	1·68	275	2·63	13·97
1930	44	·48	2·62	302	3·34	17·98
1931	44	·48	2·68	281	3·07	17·12
1932	50	·54	3·12	270	2·98	16·85
1933	34	·35	2·15	242	2·56	15·34
1934	49	·48	2·88	260	2·55	15·28
1935	51	·49	3·02	280	2·65	16·56
1936	56	·52	3·30	288	2·71	16·97
1937	35	·32	2·22	233	2·14	14·75

* In this table only deaths at the ages 15–44 have been included. The totals therefore do not agree with totals shown elsewhere.

It is obvious that all units responsible in any way for maternal welfare must weigh seriously their part in these problems. The incidence of morbidity as well as the problem of mortality must have infinite consideration. Maternal welfare is a basic factor in our national health and progress. No effort should be spared to improve the services of the preventive as well as the clinical aspects of obstetric practice.

Table V.—Hospitals with Maternity Units.

	Total Beds.	Maternity Beds.		Maternity Beds.		Maternity Beds.
METROPOLITAN DISTRICT.			COUNTRY DISTRICT.		COUNTRY DISTRICT.	
			Public Hospitals—		Public Hospitals—	
Royal Hospital for Women	249	198	Ballina	5	Merriwa	5
Royal North Shore Hospital	340	66	Brewarrina	12	Molong	5
St. George District Hospital	308	52	Broken Hill	21	Narrandera	8
			Carcoar	4	Narrabri	2
St. Margaret's Hospital for Women	64	60	Casino	7	Newcastle	1
			Cobar	5	Pambula	4
South Sydney Women's Hospital	76*	32	Collarenebri	5	Tibooburra	3
Women's Hospital, Crown-st.	280†	192	Coonabarabran	4	Tingha	1
			Coonamble	11		
			Corowa	6	Urana (McCaughey Memorial)	3
			Delegate	1	Wallsend Public Hospital	4
			Deniliquin	7	Waratah Benevolent	20
			Dorrigo	4	Public Hospitals—	
			Goodooga	1	Warialda	4
			Gulgong	3	Wentworth	5
			Grenfell	6	Wilcannia	5
			Gunnedah	5	Young	8
			Illawarra	2	Young Sacred Heart	14
			Inverell	5		
			Lismore	9	Emmaville Public Hospital	4
			Maitland	8		

* Includes 30 cots.
† Also 171 cots and 17 emergency stretchers.

List of Hospitals at which it is proposed to provide (or extend) a Maternity Unit.

METROPOLITAN DISTRICT.

Hornsby Public Hospital.
Mater Misericordiae Hospital.
Royal Hospital for Women (additions).
Royal Prince Alfred Hospital (new unit).
Ryde Public Hospital (Soldiers' Memorial).
St. George, Kogarah (additions).
St. Margaret's (new and larger hospital).
Women's Hospital, Crown Street (additions)

COUNTRY DISTRICT.

Armidale and New England Public Hospital.
Bathurst (St. Vincent's).
Bega Public Hospital.
Bonalbo (Bush Nurse and C.W.A.).
Bourke Public Hospital.
Cooma Public Hospital.
Cootamundra Public Hospital.
Orange Public Hospital.
Rylstone Public Hospital.
Tamworth Public Hospital.
Temora Public Hospital.
Tweed Public Hospital.
Wagga Wagga Public Hospital.
Wee Waa Public Hospital.

PART II.—INFANT WELFARE.

The birth-rate continues to improve in New South Wales; and the rate in the country always exceeds that of the metropolitan area.

The number of live births during 1937 was 47,497; and of still births 1,452. This is the second year in which accurate figures concerning still births have been available, as such births are now notifiable in New South Wales.

The infant death rate has shown a marked improvement for 1937, being 40·68 per 1,000 live births for the whole State. The rate in the metropolitan area is lower (38·72) than in the remainder of the State. 41·89 (see Table VI.).

TABLE VI—Births and Infantile Mortality—Comparative Statistics for the Metropolitan Area and Remainder of State.

Year.	Births.				Deaths Under 1 Year of Age.	
	Live Births.		Number of still births.	Total births.	Number.	Rate per 1,000 live births.
	Number.	Rate per 1,000 of Population.				
			METROPOLITAN AREA.			
1936	17,759	14·11	582	18,341	741	41·73
1937	18,158	14·28	590	18,748	703	38·72
			REMAINDER OF STATE.			
1936	28,434	20·18	837	29,271	1,267	44·56
1937	29,339	20·62	862	30,201	1,229	41·89

Of the 1,932 deaths under 1 year of age, 1,083, or 56 per cent., occurred under one week; 1,348, or 70 per cent., under one month; and 1,495, or 77 per cent., under three months. (See Graph III.)

Deaths from diarrhoea and enteritis continue to decrease in number (see Graph IV); before the age of one year the death rate in the five years, 1933-37, was 66 per cent. less than the rate in the five years, 1928-32. The death rate from these diseases in 1937, under one year, was 2·53 per thousand live births; under two years, 1·6 per thousand of population under two; and under five years, ·76 per thousand of population under five.

Pre-maturity, though showing a 10 per cent. decrease, in the last five years as compared with the previous five years, still causes a large percentage of our annual infantile death rate. The number of deaths from this cause in 1937 was 622.

The care of the baby from the third week to two years is extensively provided for. But the neo-natal death rate is still uncontrolled. This is a subject which requires further investigation and research.

The Baby Health Centres have maintained their successful programme in preventive medicine. New Centres were opened in the country, and the work of other Centres has continued to extend, making the necessity for increase of staff very urgent.

The total number of Baby Health Centres at the end of 1937 was 172; in metropolitan area 51, in the country 121.

The aim of the Baby Health Centres is to establish the fundamentals of preventive medicine in Infant Welfare as exemplified in the term "mothercraft." Equality of standard of teaching is one of the basic principles in the training of the staff in New South Wales. Lectures are given during the year by the honorary medical officers of the staffs of the Tresillian Mothercraft Training Schools. The first was given by the Hon. Director, Dr. Margaret Harper. Post-graduate courses are arranged at the Training School at Vaucluse. The object of these lectures is to eliminate confusion on all issues of importance in paediatrics and mothercraft, and to keep each member of the staff up to date.

The majority of the Baby Health Centres in the metropolitan area, and as many as possible in the country, have been visited by the Director of Maternal and Baby Welfare. Inspections by nurse inspectors of the country and city Baby Health Centres are carried out continuously.

The percentage of fully breast-fed babies is creditable, and the number of mothers who come to the Centres without previous visiting by the Baby Health Centre sister is increasing. Very constant demands are being received from all parts of the State for the establishment of new Centres.

The present facilities for extending the work of the Baby Health Centres are based on the co-operation of local committees and councils. The department provides the services of the nurse, her fares, and the expenses of relieving nurses; the premises and their maintenance are provided by the local committee; the donations from the collection boxes in the Health Centres go towards the expenses paid by these local committees.

Great credit is due to the staff of the Baby Health Centres. The two inspectors carry out their extensive programme with efficiency. A high standard of the science of mothercraft and paediatrics is maintained, and the successful administration depends on the resource and tact of our nursing staff as in any other programmes of preventive medicine.

The progress and extension of the work of Baby Health Centres has been continuously satisfactory. Thirteen new Centres were opened in 1937, as follows:—

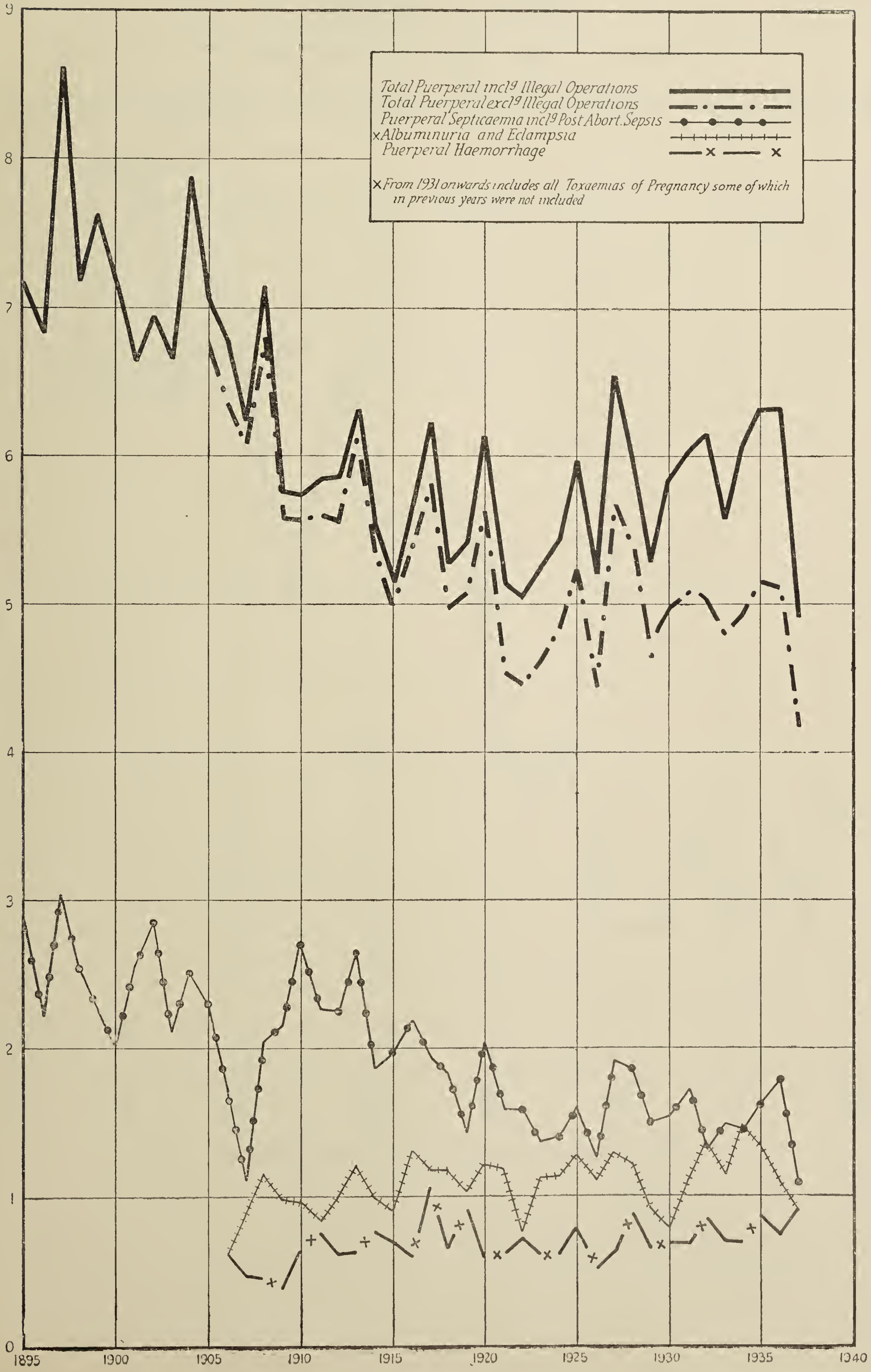
Bombala,
Deniliquin,
Gunning,
Harden,
Kiama,
Lockhart,
Maclean,
Mathoura,
Molong,
Oberon,
The Rock,
Yanco,
Yenda.

A survey of further proposed extensions has been prepared, and it is hoped that a major proportion of these will be made available during 1938.

GRAPH No. 1.

DEATHS DUE TO PUERPERAL CONDITION, NEW SOUTH WALES.

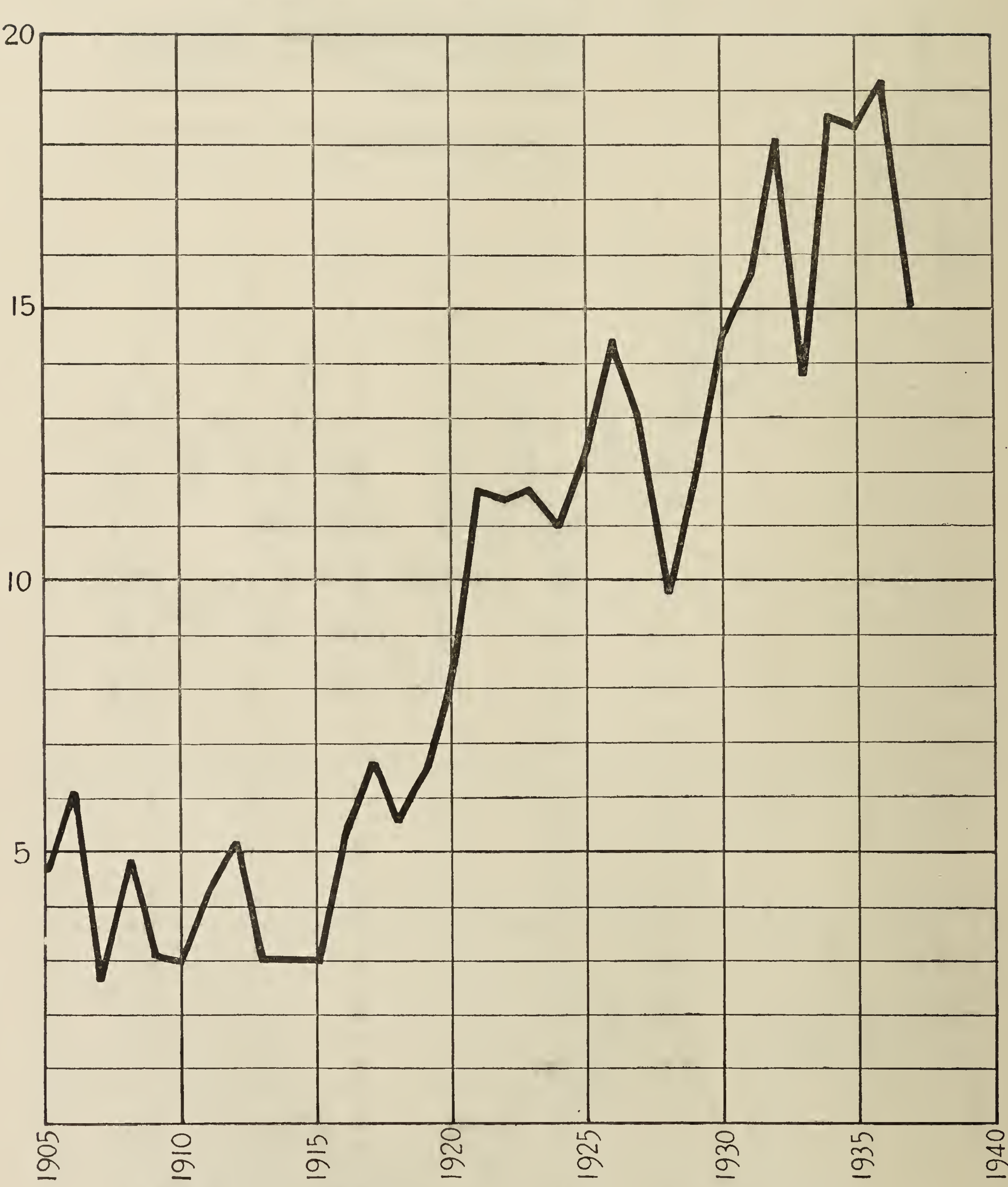
Death Rates from Certain Causes per 1,000 Live Births for the Years 1895–1937.



GRAPH No. 2.

MATERNAL MORTALITY.

Deaths from Illegal Operations, N.S.W., 1905-1937.



NOTE.—Since 1905 deaths from "illegal operations" are included in total deaths in childbirth.

The Country Women's Association of New South Wales is responsible for the maintenance and upkeep of approximately eighty Centres. Members of this Association display a very energetic public spirit in assisting with this work of preventive medicine which so closely affects our homes and our country. The statistics resulting from the Work of the Baby Health Centres by the dissemination of the knowledge of the modern methods of mothercraft make the support of this work a matter of national import. In other instances, Citizens' Committees have made the opening of many Centres possible. Shire and Municipal Councils have in some centres provided the equipment, and premises and their up-keep ; and in other places have assisted the Country Women's Association or other local committees.

I wish to express my sincere appreciation of the work done by the Country Women's Association and other public bodies. Without their assistance our programme would be much more limited. The local interest in the work of the Baby Health Centre Sister, who is always a senior staff officer, would be greatly missed.

Total attendances at the Baby Health Centres during 1937 numbered 743,634. Individual attendances numbered 64,258. The staff consists of 2 inspectors, 5 supervisory nurses, 1 ante-natal nurse, and 154 staff nurses.

The honorary medical staff of the various city Baby Health Centres gives enthusiastic and interested support to our work.

The Division of Maternal and Baby Welfare recognises the untold value of the keen interest the staff displays in its loyal service to this aspect of preventive medicine.

Publicity is very actively undertaken by the Department under the direction of the publicity officer. The co-operation of all sections of administration, particularly of local councils and Commonwealth authorities, would encourage the fuller use of those facilities which are now available.

Films are available for demonstration and lectures.

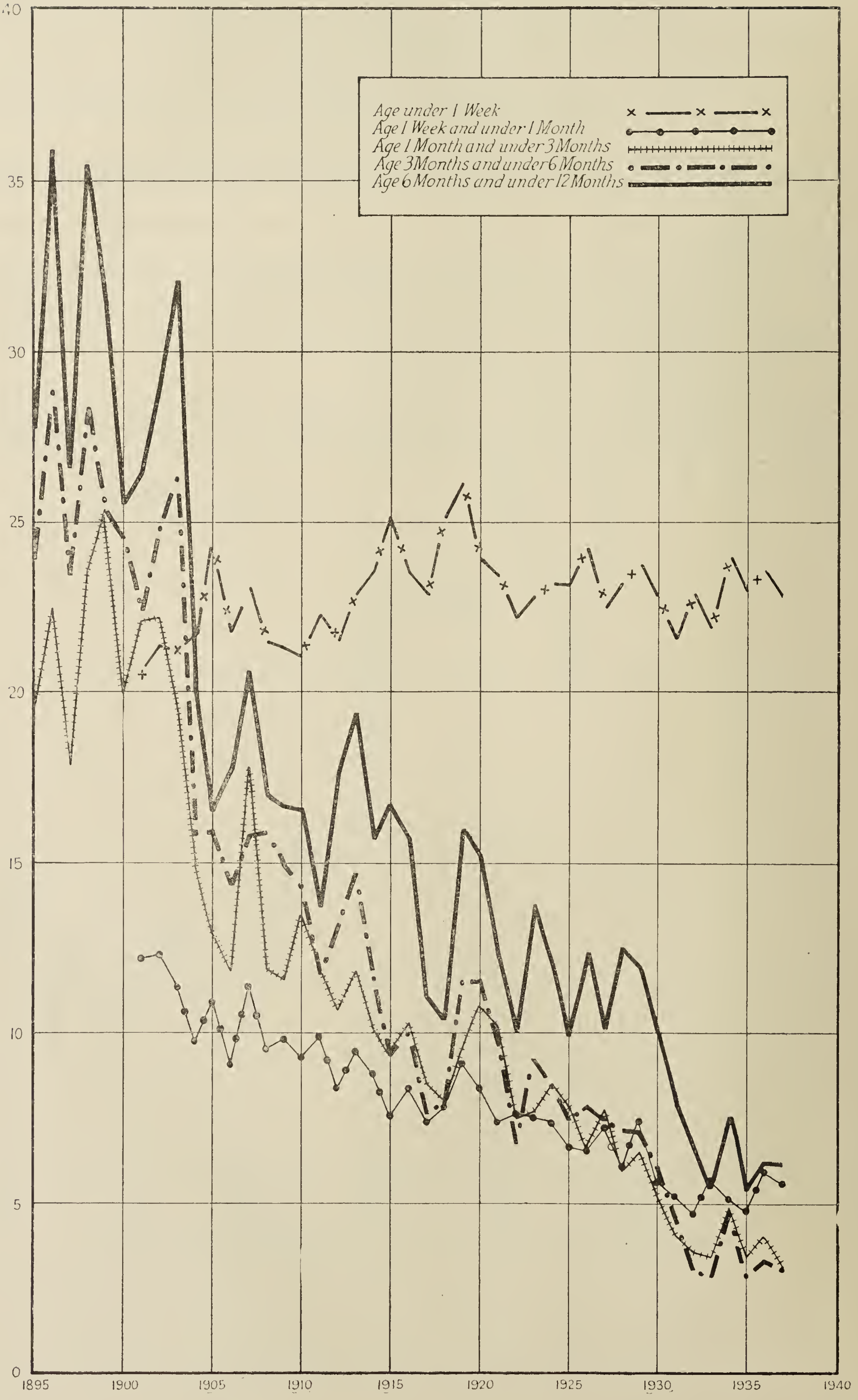
Dr. Elma Sandford was assistant to the Director of Maternal and Infant Welfare for four years and, since 1934, has been the Director. She resigned her appointment in May, 1937. Her wide experience in policy, administration and greatly varying local conditions should be an invaluable asset to the Baby Health Association in South Australia, where great expansion of welfare work for mothers and babies is taking place.

GRACE J. CUTHBERT,
Director of Maternal and Baby Welfare.

GRAPH No. 3.

INFANTILE MORTALITY, NEW SOUTH WALES.

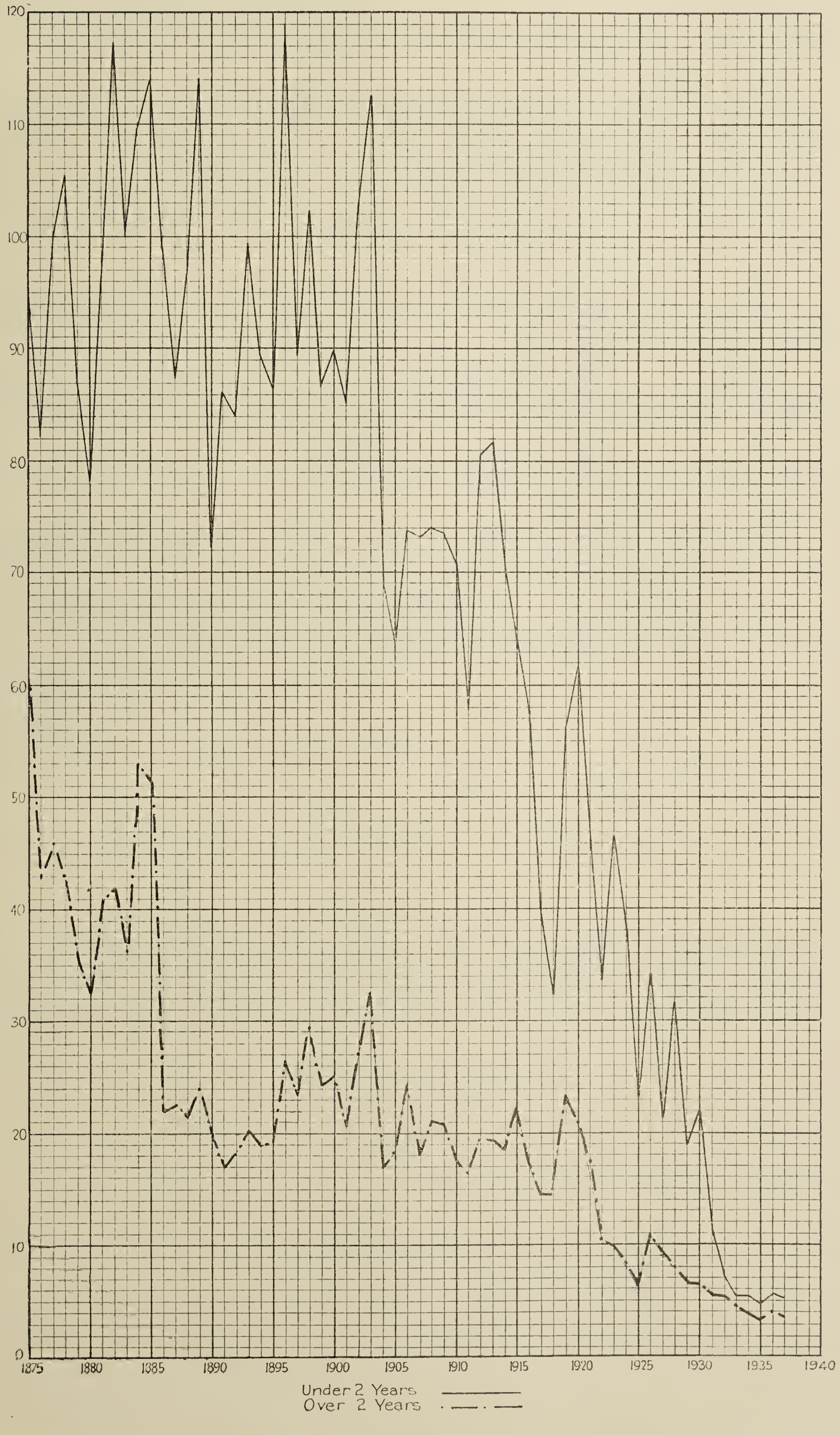
In Age Periods under 1 Year, from 1895 to 1937.



GRAPH No. 4.

DIARRHOEA AND ENTERITIS.

Annual Death Rate per 100,000 of the Population in New South Wales, 1875-1937.



SUMMARISED STATEMENT OF THE WORK OF THE PUBLICITY SECTION FOR 1937.

The work of the Publicity Section was continued and extended in certain directions during 1937.

Health Motion Pictures.—With the co-operation of local picture theatre proprietors, very successful meetings were held in many country centres at which motion pictures produced by the Department featuring the work of the pre-natal clinics, baby health centres and the ' Tresillian ' Homes, were shown and short addresses given on health subjects.

Display of Health Notices, etc.—Another noteworthy development during the year was the printing and display of coloured notices in suburban electric trains inviting the public to avail themselves of the facilities provided by the department. Two notices are now on display, one dealing with the pre-natal clinics and the other health generally. A further 500 V.D. notices were also erected in lavatories and additional cards are being printed for display in trams.

Health Posters.—A large new poster has been printed and will shortly be on display on railway hoardings throughout the State and in public offices, etc., and another poster is in course of preparation. Sets of framed posters (comprising 1,400 posters in all) were supplied to Baby Health Centres throughout the State and were used for window displays, etc.

Health Weeks.—The Health Week movement is extending, and in addition to Sydney and Newcastle—where very comprehensive and successful weeks were held again in 1937—several country towns now conduct such campaigns with the assistance of material supplied from Sydney. It is intended to procure suitable display material for this purpose.

Booklets.—A fresh edition of the department's mothercraft booklet " Our Babies " was prepared and issued during the year. This book continues to be in keen demand. New Health Week booklets were also issued in connection with the Sydney and Newcastle campaigns, together with a special country edition of the former. The " Safety and Health " booklet was also revised and re-issued.

Broadcasts.—Daily broadcasts on health were given throughout the year and special talks were broadcast in connection with " Health Week " and on other special occasions. Mothercraft talks are now given weekly from two country stations.

Press.—Press publicity has been continued during the year, reports of Baby Health Centres being circulated to local papers in each centre monthly, in addition to weekly articles to country and suburban papers. Blocks from our photographs are also used to advertise the centres, etc.

16 *mm. Motion Picture.*—A 16 mm. motion picture featuring the work of the Baby Health Centres was prepared and will be screened on continuous motion picture machines in waiting rooms at Health Centres with a view to educating mothers in the feeding and care of their children.

A. G. WHITE,
Publicity Officer.

SECTION I—C.

COMMUNICABLE DISEASES.

1.—NOTIFIABLE INFECTIOUS DISEASES RECORDED IN NEW SOUTH WALES DURING THE YEAR ENDED 31ST DECEMBER, 1937.

(F. S. WEARNE.)

Public Health Acts, 1902-1937.

The Public Health Act, 1902, provides that the Governor may, by Proclamation in the *Government Gazette*, declare that any disease therein named is an infectious disease. *Undulant Fever* was proclaimed a Notifiable disease on 13th August, 1937.

	Notifiable from—	Cases and Deaths Notified.					
		1935.		1936.		1937.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever and paratyphoid	1st January, 1898	173	20	132	19	118	18
Scarlet fever	,, ...	2,250	18	3,939	26	2,493	17
Diphtheria or membraneous croup.........	,, ...	4,913	194	7,064	220	4,244	143
Bubonic plague	23rd January, 1900 ...	...	...	...	...	...	...
Infantile paralysis (including any form of acute anterior poliomyelitis, polioencephalitis or polio-myeloencephalitis)	1stFebruary,1912. Definition Re-proclaimed 14th August, 1931 ...	181	20	23	6	70	5
Epidemic cerebro-spinal fever (meningococcal meningitis)	11th October, 1915 ...	29	5	11	4	17	7
Encephalitis lethargica........................	1st April, 1926	7	16	7	5	9	4
Cholera	12th August, 1927	...	...	...	...	...	...
Typhus fever	,, ...	9	1	4	...	5	...
Yellow fever	,, ...	...	...	...	...	...	...
Puerperal infection	16th August, 1929	266	72	326	82	241	52
Undulant Fever	13th August, 1937	...	...	...	...	2	...
	Total	7,828	346	11,506	362	7,199	246
	Population at 31st Dec.	2,645,575		2,681,736		2,694,679	

Public Health Act, 1902.

A total of 7,199 cases of infectious disease was notified under the Public Health Act, 1902, during 1937, or 4,407 fewer cases than in 1936. The number of cases notified from the 160 municipal, 139 shire and 14 police districts; the deaths due to these infections; the age and sex of the patients; and the seasonal incidence of the various diseases are shown in appended Tables I–IV (pp. 51-56). As indicated below pulmonary tuberculosis is notifiable under the Public Health (Amendment) Act, 1915; and venereal diseases under the Venereal Diseases Act, 1918.

Typhoid Fever.—The 118 cases and 18 deaths notified in 1937 show the lowest incidence of this infection hitherto recorded. In 1936 there were 132 cases and 19 deaths.

Scarlet Fever.—There were 2,493 notified cases and 17 deaths, a considerably lower incidence than in 1936 when 3,939 cases and 26 deaths were recorded.

Diphtheria.—There were 4,244 notified cases and 143 deaths, in comparison with 7,064 cases and 220 deaths in 1936.

Infantile Paralysis.—70 cases and 5 deaths were notified; 56 of the cases occurred from September to December. In 1936 there were 23 cases with 6 deaths.

Puerperal Infection.—241 cases were notified, or 85 fewer than in 1936. The recorded deaths were respectively 82 in 1936 and 52 in 1937.

Cerebro-spinal Meningitis.—17 cases and 7 deaths were reported in 1937. In 1936 there were 11 cases and 4 deaths.

Encephalitis Lethargica.—Nine cases and 4 deaths were notified, compared with 7 cases and 5 deaths in 1936.

Endemic Typhus Fever.—Five non- fatal cases were recorded. There were 4 cases in 1936.

Undulant Fever.—On 13th August,1937, a proclamation was issued making undulant fever notifiable on and from that date. Two cases were notified, one from the Metropolitan Area, and one from a country district.

Bubonic Plague.—No case of this disease has been reported since June, 1923. Rat-catchers are continuously employed in the vicinity of wharves and in the City area. Plague was not detected in the 4,425 rats examined in the Microbiological Laboratory.

Smallpox.—No case was reported during 1937.

Leprosy.—Three persons (1 male and 2 females) found to be suffering from leprosy were admitted to the Lazaret, and 4 patients under detention there died. For the Report on Leprosy in New South Wales (see p. 131.)

PUBLIC HEALTH (AMENDMENT) ACT, 1915.

Pulmonary Tuberculosis was made a notifiable disease under an amendment of the Public Health Act in 1915. In 1937 notified cases amounted to 1771, an increase of 399 on the notifications received in 1936. There were 991 deaths, or an increase of 36 compared with the deaths recorded in 1936. A comprehensive survey by the Director of the Tuberculosis Division and the Report of the Medical Superintendent of Waterfall Sanatorium are on pp. 72 and 120.

VENERAL DISEASES ACT, 1918.

Five thousand, six hundred and twelve cases of venereal disease were notified in 1937, and increase of 452 cases on the number (5,160) received in 1936. The Report of the Director of the Division is on p. 67.

TABLE I.—Showing the number of notified cases of, and deaths from, the following diseases.—Cerebro-spinal Fever (Meningococcal Meningitis), Diphtheria and Membranous Croup, Encephalitis Lethargica, Infantile Paralysis (Acute anterior Poliomyelitis), Scarlet Fever, Typhoid Fever (including Paratyphoid), Pulmonary Tuberculosis, and Puerperal Infection in the METROPOLITAN COMBINED DISTRICTS for the year ended 31st December, 1937.

Municipality or Shire.	Estimated Mean Population.	Typhoid and Paratyphoid.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Puerperal Infection.		Pulmonary Tuberculosis.	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
METROPOLITAN MUNICIPALITIES.																	
Sydney, City of	87,940	1	1	114	2	187	8	3	...	1	...	1	...	15	...	186	86
Alexandria	8,850	...	...	1	...	12	1	2	...	...	...	...	...	3	...	13	7
Annandale	12,130	...	...	14	...	24	1	2	...	...	...	...	...	2	...	15	9
Ashfield	40,230	...	...	41	...	37	1	5	...	...	...	...	...	2	...	25	12
Auburn	20,420	16	1	26	...	38	1	...	...	...	...	...	...	1	1	5	5
Balmain	27,920	1	...	40	...	136	5	2	...	...	...	...	...	6	...	29	22
Bankstown	27,040	...	...	19	...	58	2	...	...	...	...	...	...	5	...	11	8
Bexley	21,250	...	...	30	...	25	1	...	...	...	...	...	...	1	...	14	10
Botany	8,690	1	...	20	...	27	2	1	...	...	...	...	...	1	...	8	6
Burwood	19,940	...	...	29	...	14	...	1	...	1	...	...	...	4	...	15	7
Canterbury	81,750	...	...	85	...	120	1	4	1	...	...	...	...	11	1	74	32
Concord	23,900	1	...	30	...	30	1	1	...	...	1	...	...	1	...	19	5
Darlington	2,950	...	...	...	...	3	...	...	...	...	...	...	...	...	...	3	1
Drummoyne	30,170	...	...	46	...	19	1	1	...	...	...	...	...	1	...	26	11
Dundas	6,450	...	...	11	...	3	...	...	...	...	...	...	...	1	...	...	3
Eastwood	3,190	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...
Enfield	15,050	1	...	20	1	22	1	1	...	...	...	...	...	4	...	16	7
Ermington and Rydalmere	2,410	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Erskineville	6,530	...	...	9	...	27	...	...	...	...	...	...	...	3	...	2	1
Glebe	19,550	...	...	16	...	62	1	1	...	...	...	...	...	3	...	29	16
Granville	20,370	1	...	49	1	40	3	...	...	...	...	...	...	3	...	11	5
Holroyd (Pitt and Merrylands Wards)	8,880	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Homebush	3,210	1	...	5	...	14	3	...	...	...	...	...	...	...	...	8	2
Hunters Hill	9,330	...	...	12	...	8	...	2	...	...	...	...	...	2	...	9	2
Hurstville	24,010	...	...	23	...	31	1	...	...	...	...	...	...	4	1	32	6
Kogarah	32,300	...	...	34	...	38	2	...	...	...	...	...	...	4	1	11	8
Kuring-gai	30,800	...	...	23	...	19	...	1	...	...	...	...	...	2	...	28	15
Lane Cove	15,850	...	...	8	...	13	...	...	...	...	...	...	...	1	...	17	3
Leichhardt	30,350	1	...	27	...	125	6	4	...	...	...	...	...	4	2	33	10
Lidcombe	17,630	1	...	22	...	24	1	...	...	...	...	...	...	3	1	19	13
Manly	24,520	1	...	28	...	67	1	1	...	...	...	...	...	1	1	9	10
Marrickville	45,870	...	...	75	...	143	7	...	...	...	...	...	...	5	1	35	22
Mascot	15,260	1	...	22	1	42	...	...	...	...	...	...	...	1	...	20	8
Mosman	24,600	1	...	14	...	12	...	...	1	...	...	1	...	2	...	12	5
Newtown	24,920	...	...	14	...	72	1	2	...	...	...	...	...	6	...	35	16
North Sydney	50,930	...	...	36	...	90	2	1	...	1	...	...	...	2	1	38	10
Paddington	24,500	...	...	29	...	75	4	5	...	1	...	...	...	11	1	32	19
Parramatta	18,720	1	1	13	...	14	...	...	...	...	...	...	...	...	...	9	5
Petersham	27,320	...	...	26	...	49	1	1	...	...	...	...	...	2	...	36	16
Randwick	81,840	...	...	102	...	128	3	2	...	...	...	1	1	9	3	83	55
Redfern	18,370	...	...	20	...	64	4	...	...	...	...	...	...	9	1	36	15
Rockdale	40,800	...	...	28	...	46	2	...	...	...	...	...	...	6	...	12	9
Ryde	29,540	...	...	23	...	32	1	1	...	2	1	...	...	4	...	20	8
St. Peters	12,560	...	...	7	...	22	...	...	...	...	1	...	...	2	...	10	8
Strathfield	12,770	...	...	10	...	11	1	...	...	...	...	...	...	...	...	6	3
Vaucluse	7,680	...	...	6	...	4	1	...	...	...	...	...	...	1	1	5	...
Waterloo	11,710	...	...	8	...	36	2	...	...	...	...	...	...	1	...	14	9
Waverley	59,200	2	1	53	...	61	2	...	...	1	...	1	1	10	1	56	18
Willoughby	44,510	...	...	44	...	40	2	1	...	...	...	...	...	5	...	24	16
Woollahra	36,810	...	...	42	...	24	4	...	...	...	...	...	...	2	...	42	16
EXTRA METROPOLITAN MUNICIPALITIES.																	
Cabramatta and Canley Vale	6,980	...	...	10	...	18	...	...	...	...	...	...	...	1	...	6	3
Fairfield	9,550	...	...	40	...	33	...	1	...	...	...	...	...	1	1	9	7
Holroyd (Guildford and Wentworth Wards)	8,380	...	...	26	...	47	...	1	...	...	...	...	...	1	...	9	4
Ingleburn	2,010	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...
Liverpool	6,730	2	...	3	...	24	2	...	...	...	...	...	...	...	...	11	5
SHIRES.																	
Hornsby	23,670	...	...	82	1	22	...	...	...	...	...	...	...	1	...	33	23
Warringah	17,270	...	...	5	...	30	...	1	...	...	...	...	...	2	...	9	9
Harbour of Port Jackson	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...
Totals	1,346,110	33	4	1,525	6	2,366	83	48	2	7	3	4	2	172	18	1,277	633

Table II.—Showing the number of notified cases of and deaths from Cerebro-spinal Fever (Meningococcal Meningitis), Diphtheria or Membranous Croup, Encephalitis Lethargica, Infantile Paralysis (Acute Anterior Poliomyelitis), Scarlet Fever, Typhoid Fever (including Paratyphoid), Pulmonary Tuberculosis, and Puerperal Infection in the Hunter River Combined District for the year ended 31st December, 1937.

Municipality or Shire.	Estimated Mean Population.	Typhoid and Paratyphoid.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Puerperal Infection.		Pulmonary Tuberculosis.	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Municipalities.																	
Adamstown	5,120	...	...	...	...	15	...	...	...	...	...	...	...	...	...	4	1
Carrington	3,160	...	...	1	...	3	...	...	...	...	...	...	...	...	1	1	...
Cessnock	14,450	...	...	1	...	90	2	...	...	1	...	...	...	...	...	4	7
Hamilton	20,110	...	...	6	...	24	...	...	...	...	...	...	...	...	...	8	6
Lambton	4,610	...	...	3	...	8	...	...	...	...	...	...	...	...	...	6	1
Maitland, East	4,360	1	1	1	...	9	...	...	...	...	...	...	...	2	1	1	...
Maitland, West	8,250	1	...	...	...	15	...	...	...	...	...	...	...	...	...	5	1
Merewether	8,960	1	...	...	...	21	1	1	...	...	...	...	...	...	...	2	1
Morpeth	1,040	...	...	5	...	1	...	...	...	...	...	...	...	1	...	1	...
Newcastle	13,950	...	...	2	...	30	...	...	...	...	...	...	...	...	...	18	9
New Lambton	6,830	...	...	1	...	19	1	...	...	...	...	...	...	1	...	3	5
Singleton	3,810	2	1	2	1	5	...	...	...	...	...	...	...	...	...	...	...
Stockton	5,740	...	...	1	...	16	...	...	...	...	...	...	...	...	...	6	3
Wallsend	7,330	...	...	8	...	15	...	...	...	...	...	...	...	2	1	6	2
Waratah	21,690	...	...	9	...	36	...	...	...	...	...	...	...	...	1	10	6
Wickham	12,210	...	...	9	...	13	...	...	...	...	...	...	...	...	...	4	7
Shires.																	
Bolwarra	3,660	...	...	3	...	2	...	...	...	...	...	...	...	...	...	...	...
Kearsley	27,850	...	...	5	...	69	...	...	...	...	...	...	...	...	...	4	9
Lake Macquarie	31,250	2	3	10	...	48	...	1	...	...	...	...	1	4	3	5	8
Port Stephens	5,250	...	...	2	...	9	2	...	...	...	...	...	...	...	...	...	1
Tarro	9,980	...	...	3	...	20	1	...	...	...	...	...	...	...	...	2	1
Total	219,610	7	5	72	1	468	7	2	...	1	...	...	1	10	7	90	68

Table III.—Showing the number of notified cases of and deaths from Cerebro-spinal Fever (Meningococcal Meningitis), Diphtheria or Membranous Croup, Encephalitis Lethargica, Infantile Paralysis (Acute Anterior Poliomyelitis), Scarlet Fever, Typhoid (including Paratyphoid), Pulmonary Tuberculosis, and Puerperal Infection, in the Remainder of State for the year ended 31st December, 1937.

Municipality or Shire.	Estimated Mean Population.	Typhoid and Paratyphoid.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Puerperal Infection.		Pulmonary Tuberculosis.	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Municipalities.																	
Albury	11,160	1	...	11	...	20	1	2	...	...	...	...	...	1	1	3	5
Armidale	7,070	...	...	10	...	11	1	...	...	...	...	...	...	...	...	...	4
Ballina	3,160	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Balranald	1,350	...	...	...	...	...	...	...	...	...	...	...	...	3	...	1	...
Barraba	1,490	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...
Bathurst	10,840	...	...	17	...	15	...	...	...	...	...	...	...	1	...	9	6
Bega	2,540	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Berry	2,770	...	...	5	...	4	...	...	...	...	...	...	...	...	...	2	1
Bingara	1,430	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Blackheath	1,570	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	4
Bombala	970	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Bourke	1,890	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1
Bowral	3,120	...	...	...	...	1	...	...	...	...	...	...	...	...	...	3	1
Brewarrina	870	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Broken Hill	27,600	23	1	142	...	9	...	...	...	1	1	...	...	2	1	13	17
Broughton Vale	320	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burrowa	1,570	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Camden	2,550	...	...	...	...	7	...	...	...	...	...	...	...	...	...	4	...
Campbelltown	2,980	...	...	...	...	4	...	...	...	...	...	...	...	1	...	2	...
Casino	5,930	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	1
Castlereagh	1,210	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Cobar	1,470	...	...	2	...	8	...	...	...	...	...	...	...	4	...	1	2
Condobolin	2,800	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
Cooma	2,110	...	...	1	...	...	...	...	...	...	...	...	...	1	1	...	...
Coonamble	2,850	...	...	...	...	3	...	1	...	...	...	...	...	2	...	...	...
Cootamundra	4,890	...	...	8	...	13	...	1	...	...	...	...	...	...	1	2	1

REMAINDER OF STATE.—Return showing the number of Cases, etc., from Country Municipalities—*continued.*

MUNICIPALITIES—*continued.*

Municipality or Shire.	Estimated Mean Population.	Typhoid and Paratyphoid.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Puerperal Infection.		Pulmonary Tuberculosis.	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Corowa	2,960	...	...	2	...	10	...	...	...	...	...	...	...	...	...	...	...
Cowra	5,350	...	...	4	...	5	...	...	...	...	...	...	...	...	...	3	1
Deniliquin	3,410	...	...	...	...	15	...	...	...	...	...	...	...	...	...	2	1
Dubbo	8,570	4	2	20	...	26	...	...	...	...	...	...	...	...	1	2	2
Dungog	2,220	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...
Forbes	5,580	1	...	3	...	3	...	...	...	...	...	...	...	...	...	8	3
Gerringong	900	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1
Glen Innes	5,450	...	...	1	...	4	...	...	...	...	...	...	...	...	...	...	1
Gosford	3,620	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...
Goulburn	15,280	1	...	8	...	6	1	...	...	...	...	...	...	1	1	12	2
Grafton	7,130	...	...	5	...	27	1	...	...	...	...	...	...	...	...	1	2
Grafton South	2,330	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...
Grenfell	2,600	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Gulgong	1,810	...	...	4	...	2	1	...	...	...	...	...	...	...	...	2	...
Gunnedah	3,979	...	...	2	...	6	...	...	...	...	...	...	...	1	1	2	2
Hay	3,300	6	1	2	...	1	1	...	...	...	...	...	...	...	1	1	2
Hillston	1,180	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Illawarra North	8,390	1	...	9	...	11	...	...	...	...	...	...	...	...	1	...	1
Inverell	5,810	...	...	...	...	10	1	...	...	...	...	...	...	...	1	...	1
Jamberoo	1,140	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
Junee	4,330	...	...	9	1	9	...	...	...	...	...	...	...	1	...	4	2
Katoomba	6,840	...	...	3	...	6	...	...	...	...	...	...	...	...	...	9	14
Kempsey	5,220	...	...	2	...	6	...	...	...	...	...	...	...	2	...	3	...
Kiama	2,500	...	...	5	...	14	...	...	...	...	...	...	...	...	...	...	...
Lismore	12,750	...	...	4	...	26	...	...	...	...	...	...	...	1	...	3	...
Lithgow	13,500	...	...	8	...	...	1	...	...	...	...	...	...	1	1	1	1
Maclean	1,650	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...
Manilla	1,890	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Mittagong	1,830	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Moama	790	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Molong	1,650	...	...	3	1	19	...	...	...	...	...	...	...	...	...	...	...
Moree	4,710	...	...	2	1	21	...	1	...	...	...	...	...	1	...	2	3
Mudgee	4,120	...	...	34	...	7	...	...	...	...	...	1	...	...	1	5	...
Mullumbimby	1,430	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Murrumburrah	2,780	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Murrurundi	1,220	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1
Murwillumbah	4,450	...	...	...	...	12	...	...	...	...	...	...	...	...	...	1	...
Muswellbrook	3,370	...	...	...	...	13	...	...	...	...	...	...	...	...	...	3	...
Narrabri	3,140	...	...	1	...	...	...	...	...	...	...	...	...	2	1	2	...
Narrabri, West (amalgamated with Namoi Shire 13/7/37)	...	...	...	...		1	...	...	...	1	...	...	...	...	...	...	...
Narrandera	4,260	...	...	16	...	21	...	...	...	...	...	...	...	1	...	3	1
Narromine	1,720	...		3	...	6	...	...	...	...	...	...	...	...	...	1	...
Nowra	3,180	...	...	3	...	1	...	...	...	...	...	...	...	...	...	4	1
Nyngan	1,660	...	...	2	...	10	...	...	...	...	...	...	...	...	...	2	2
Orange	10,090	1	...	27	...	37	...	...	...	...	...	...	...	...	...	7	3
Parkes	6,110	...	...	1	...	35	4	...	...	...	...	1	1	...	...	3	2
Peak Hill	1,270	...	...	3	...	2	...	...	...	...	...	...	...	...	...	2	1
Penrith	4,070	...	...	3	...	10	...	...	...	...	...	...	...	...	...	2	5
Picton	1,060	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1
Port Macquarie	1,930	...	...	...	...	1	1	...	...	...	...	...	...	...	...	2	...
Queanbeyan	4,150	...	...	...	...	25	1	...	...	...	...	...	...	...	...	3	...
Quirindi	2,690	...	...	1	...	2	...	...	...	...	...	...	...	1	...	...	...
Richmond	2,580	...	...	1	1	...	...	...	...	...	...	...	...	1	...	...	1
Scone	2,280	...	...	2	...	5	...	...	...	...	...	...	...	...	...	2	...
Shellharbour	2,030	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...
Shoalhaven, South	820	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
St. Mary's	3,120	...	...	1	...	21	...	...	...	...	...	...	...	...	...	...	1
Tamworth	10,610	1	...	5	...	16	1	...	...	...	...	...	...	...	...	8	1
Taree	5,030	...	...	...	...	6	1	...	...	...	...	...	...	...	1	7	2
Temora	4,170	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	1
Tenterfield	2,710	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Ulladulla	1,530	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Ulmarra	1,970	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
Uralla	1,120	2	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Wagga Wagga	12,430	2	...	11	...	34	...	...	...	...	...	...	...	...	...	8	4
Walcha	1,560	...	...	4	...	3	...	...	...	...	...	...	...	...	...	1	...
Warren	1,690	3	1	1	...	4	...	...	...	...	...	...	...	...	...	...	...
Wellington	4,450	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Wentworth	860	2	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Wilcannia	650	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Windsor	3,420	...	...	3	...	3	...	...	...	...	...	...	...	2	...	7	1
Wingham	1,740	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...
Wollongong	13,060	...	...	13	...	17	2	...	...	...	...	...	...	...	...	15	2
Yass	3,010	...	...	3	...	4	...	...	...	...	...	...	...	...	...	...	2
Young	4,240	...	...	3	...	12	...	...	...	...	...	...	...	...	...	3	1
Total, Municipalities	402,950	51	7	461	4	670	18	5	...	2	1	2	1	31	14	200	119

REMAINDER OF STATE.—Return showing the number of cases, &c., from Country Shires.

Shires.	Estimated Mean Population.	Typhoid and Paratyphoid.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Puerperal Infection.		Pulmonary Tuberculosis.	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
SHIRES.																	
Abercrombie	4,250	...	...	7	1	2	...	...	...	...	...	...	...	...	...	...	2
Amaroo	2,840	...	...	...	...	12	1	...	...	...	...	...	...	...	...	...	...
Apsley	2,980	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Ashford	4,090	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Bannockburn	3,450	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...
Barraba	2,090	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Baulkham Hills	8,440	...	...	11	...	10	1	...	...	...	...	...	...	...	...	...	2
Bellingen	6,200	...	...	3	...	1	...	1	1	...	...	...	...	...	...	1	...
Berrigan	4,790	1	...	1	...	11	...	2	...	...	...	...	...	...	...	1	...
Bibbenluke	2,910	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Blacktown	14,540	...	...	18	...	21	3	...	...	...	...	...	...	1	...	7	9
Bland	12,610	1	...	8	...	2	...	...	...	...	...	...	...	...	...	...	1
Blaxland	8,430	...	...	8	...	4	...	...	...	...	...	...	...	...	...	...	3
Blue Mountains	7,100	1	1	17	...	15	...	...	...	...	...	...	...	...	...	64	24
Bogan	1,970	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Boolooroo	3,560	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1
Boomi	3,230	...	...	...	...	2	1	...	...	...	...	...	...	...	...	1	...
Boree	7,010	...	...	2	...	1	...	...	...	...	...	...	...	1	...	3	1
Bulli	15,560	1	...	18	...	34	...	...	...	...	...	...	...	3	2	12	9
Burrangong	6,070	...	...	1	...	5	...	1	...	...	...	...	...	...	...	...	...
Byron	8,040	...	...	2	...	...	...	...	...	...	...	...	...	1	...	...	1
Cambewarra	1,210	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Canobolas	9,040	...	...	9	...	11	...	...	...	...	...	...	...	...	...	...	8
Carrathool	5,890	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...
Clyde	1,860	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Cobborah	5,380	...	...	6	...	...	...	1	...	...	...	...	...	...	...	4	3
Cockburn	5,100	...	...	3	...	4	...	...	...	...	...	...	...	...	...	...	1
Colo	5,440	...	...	2	1	8	2	...	...	...	...	...	...	...	...	3	...
Conargo	1,210	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Coolah	2,220	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...
Coolamon	7,220	...	...	1	...	33	1	...	...	...	...	...	...	1	...	...	...
Coonabarabran	7,000	...	...	11	...	2	...	...	...	...	...	...	...	1	1	1	2
Copmanhurst	3,510	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...
Coreen	3,440	...	...	1	...	18	2	...	...	...	...	...	...	...	...	1	...
Crookwell	6,520	...	...	1	...	2	...	1	...	...	...	...	...	...	...	...	...
Cudgegong	5,680	...	...	19	...	4	...	...	...	...	...	...	...	...	...	...	2
Culcairn	5,540	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Dalgety	3,620	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	2
Demondrille	3,300	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Dorrigo	11,200	...	...	6	...	5	2	...	...	...	...	...	...	...	...	1	3
Dumaresq	4,380	...	...	...	...	16	...	...	...	...	...	...	...	...	1	...	...
Erina	14,130	1	...	7	...	8	...	1	...	1	...	...	...	2	...	3	6
Eurobodalla	5,410	...	...	1	...	1	...	...	...	...	...	...	...	...	...	7	4
Gilgandra	5,490	...	...	1	...	22	2	...	...	...	...	...	...	...	1	...	1
Gloucester	4,550	...	...	...	...	6	2	...	...	...	...	...	...	...	...	...	2
Goobang	6,940	1	...	11	...	11	1	...	...	...	...	...	...	...	...	...	...
Goodradigbee	3,560	...	...	3	...	5	...	...	...	...	...	...	...	...	...	...	...
Gostwyck	4,250	...	...	6	...	3	...	...	...	...	...	...	...	...	...	...	...
Gundagai	5,420	...	...	10	...	9	1	1	1	...	...	...	...	...	...	1	1
Gundarimba	4,700	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...
Gunning	3,230	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...	1
Guyra	6,660	...	...	5	...	18	...	...	...	...	...	...	...	...	...	1	2
Gwydir	1,900	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Harwood	4,600	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Hastings	9,590	...	...	1	...	12	...	...	...	...	...	...	...	2	1	5	...
Holbrook	2,710	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Hume	5,320	...	...	4	...	6	...	2	...	...	...	...	...	...	...	...	...
Illabo	2,900	...	...	3	...	2	...	...	...	...	...	...	...	...	...	...	...
Illawarra, Central	10,570	...	...	8	...	22	...	...	...	1	2	...	...	...	...	5	2
Imlay	4,850	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Jemalong	4,520	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Jerilderie	1,840	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1
Jindalee	2,590	...	...	1	...	6	...	...	...	...	...	...	...	...	...	...	1
Kyeamba	4,640	...	...	2	...	14	...	...	...	...	...	...	...	...	...	...	...
Kyogle	12,420	...	...	3	...	3	...	...	...	...	...	...	...	2	...	1	1
Lachlan	8,360	...	...	...	...	2	...	...	...	...	...	...	...	...	...	4	...
Liverpool Plains	5,380	3	...	2	...	3	...	...	...	...	...	...	...	...	...	...	1
Lockhart	5,660	...	...	6	...	3	...	1	...	...	...	...	...	...	...	1	...
Lyndhurst	7,390	...	...	6	...	7	1	...	...	...	...	...	...	2	...	8	5
Macintyre	1,640	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Macleay	9,030	...	...	1	...	5	1	...	...	...	...	...	...	...	...	1	...
Macquarie	4,610	...	...	2	...	7	...	...	...	...	...	...	...	...	...	...	1
Mandowa	2,000	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Manning	14,330	...	...	...	...	8	...	...	...	1	...	...	...	...	...	...	2
Mathaguy	2,160	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...
Merriwa	3,210	...	...	...	...	4	...	...	...	...	...	1	...	...	...	2	...
Mitchell	4,200	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	1
Monaro	2,610	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Mulwaree	7,270	...	...	1	...	3	1	...	...	...	...	...	...	...	1	...	2
Mumbulla	4,730	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Murray	3,210	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	1
Murrumbidgee	850	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Murrungal	2,600	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Muswellbrook	4,180	...	...	...	...	4	...	1	1	...	...	...	...	...	...	1	1

Remainder of State.—Return showing the number of cases, &c., from Country Shires—*continued.*

Shires.	Estimated Mean Population.	Typhoid and Paratyphoid.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Puerperal Infection.		Pulmonary Tuberculosis.	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
						SHIRES—*continued.*											
Nambucca	7,890	...	...	1	...	4	1	...	...	...	...	...	...	1	...	...	...
Namoi	9,250	...	...	3	...	10	1	...	...	1	1	...	...	...	...	2	1
Narraburra	4,340	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...
Nattai	3,790	...	...	...	...	2	...	...	...	...	...	...	...	...	...	1	...
Nepean	3,590	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	1
Nundle	1,850	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Nymboida	2,880	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Oberon	3,090	...	...	1	...	9	...	1	...	...	...	...	...	...	1	...	...
Orara	2,210	...	...	2	...	4	...	...	...	1	...	...	...	...	...	...	...
Patrick's Plains	6,670	1	...	3	...	7	...	...	...	...	...	...	...	...	...	2	1
Peel	6,660	...	...	3	...	6	...	...	...	...	...	...	...	...	...	...	...
Rylstone	5,790	...	...	11	1	4	1	...	...	...	...	...	...	1	...	1	3
Severn	6,320	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Stroud	6,700	...	...	...	...	3	1	...	...	...	...	...	...	...	...	...	...
Sutherland	14,920	...	...	41	...	70	3	1	...	...	...	...	...	2	1	10	9
Talbragar	4,030	1	...	5	...	7	...	...	...	...	...	...	...	...	...	...	...
Tallagunda	3,400	...	...	1	...	3	...	...	...	...	...	...	...	...	...	...	...
Tamarang	3,060	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Tenterfield	5,410	...	...	2	...	3	...	...	...	...	...	...	...	...	...	...	1
Terania	7,840	...	...	3	...	2	...	...	...	...	...	...	...	1	...	2	2
Timbrebongie	4,450	...	...	2	...	11	...	...	...	...	...	...	...	...	...	...	1
Tintenbar	5,360	...	...	2	...	3	...	...	...	...	...	...	...	...	...	...	...
Tomki	4,060	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tumbarumba	3,020	...	...	...	...	4	...	...	...	...	...	...	...	...	1	...	...
Tumut	7,960	...	...	1	...	4	...	...	...	...	...	...	...	...	...	2	1
Turon	4,530	...	...	9	...	...	...	...	...	...	...	...	...	1	...	...	1
Tweed	13,930	...	...	5	1	19	...	...	...	...	...	...	...	...	...	...	1
Upper Hunter	5,860	...	...	8	...	3	...	...	...	...	...	...	...	...	...	...	...
Urana	3,300	...	...	...	...	5	1	...	...	...	...	...	...	...	...	...	...
Wade	9,430	...	...	7	...	3	...	...	...	...	...	...	...	...	...	4	3
Wakool	4,470	...	...	14	...	4	...	...	...	...	...	...	...	...	...	1	2
Walgett	3,750	1	...	3	...	22	...	...	...	...	...	...	...	1	...	2	1
Wallarobba	5,210	...	...	4	...	6	...	...	...	...	...	...	...	...	...	...	...
Waradgery	1,180	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Warrah	2,140	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Waugoola	6,010	...	...	2	...	6	...	...	...	...	...	...	...	...	...	1	2
Weddin	4,050	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...
Willimbong	8,320	...	...	17	...	25	2	...	...	1	...	...	...	2	2	5	4
Windouran	820	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Wingadee	3,520	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wingeecarribee	6,880	...	...	2	...	2	...	...	...	...	...	...	...	...	...	2	1
Wollondilly	6,520	...	...	...	...	3	...	...	...	...	...	...	...	...	...	17	4
Woodburn	4,540	...	...	4	...	5	...	...	...	...	...	...	...	...	...	...	3
Woy Woy	2,700	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	3
Wyaldra	2,400	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2
Yallaroi	4,470	1	1	...	...	1	1	...	...	...	...	...	...	...	...	1	1
Yanko	5,400	1	...	7	...	9	...	...	...	...	...	...	...	...	...	2	1
Yarrowlumla	2,490	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Total, Shires	701,590	22	2	433	6	732	34	14	3	7	3	1	...	28	13	199	166
						WESTERN DIVISION (POLICE DISTRICTS).											
Unincorporated	19,190	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	5
Balranald	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bourke	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Brewarrina	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Broken Hill	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cobar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hay	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hillston	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ivanhoe	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Menindie	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Mitchell	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nyngan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Walgett	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...
Wentworth	...	3	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...
Wilcannia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	19,190	5	...	2	...	8	1	1	...	...	...	...	...	...	..	...	5
Migratory	5,059	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lord Howe Island	170	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Outside the State—																	
Federal Capital Territory	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...
Queensland	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Victoria	...	...	...	6	...	17	...	...	...	...	...	...	...	...	...	...	...
South Australia	...	1	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	5,229	1	...	10	...	21	...	...	...	...	...	...	...	...	...	...	...
Total, N.S.W.	2,694,679	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE IV.—Table showing Age and Sex Incidence, and Mortality, in the Metropolitan Combined District, Hunter River Combined District, Broken Hill District, and Remainder of State, from the notified cases of Cerebro-spinal Fever (Meningococcal Meningitis), Diphtheria and Membranous Croup, Infantile Paralysis (Acute Anterior Poliomyelitis), Encephalitis Lethargica, Scarlet Fever, Typhoid Fever (including Paratyphoid) and Pulmonary Tuberculosis, Puerperal Infection, for the year ended 31st December, 1937.

Age Period.	Typhoid and Paratyphoid.						Scarlet Fever.						Diphtheria.						Infantile Paralysis.						Encephalitis Lethargica.						Cerebro-spinal Meningitis.						Pulmonary Tuberculosis.						Puerperal Infection.			
	Incidence.			Mortality.			Incidence.			Mortality.			Incidence.			Mortality.			Incidence.			Mortality.			Incidence.			Mortality.			Incidence.			Mortality.			Incidence.			Mortality.			Incidence.		Mortality.	
	Notified Cases.			Notified Deaths.			Notified Cases.			Notified Deaths.			Notified Cases.			Notified Deaths.			Notified Cases.			Notified Deaths.			Notified Cases.			Notified Deaths.			Notified Cases.			Notified Deaths.			Notified Cases.			Notified Deaths.			Notified Cases.		Notified Deaths.	
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	F.	Total.	F.	Total.
METROPOLITAN DISTRICT.																																														
All ages	15	18	33	1	3	4	626	899	1,525	4	2	6	1,041	1,325	2,366	38	45	83	32	16	48	2	...	2	1	3	4	1	1	2	2	5	7	1	2	3	778	499	1,277	417	216	633	172	172	18	18
Under 1 year	...	...	...	...	...	...	2	6	8	1	...	1	16	19	35	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	1	3	...	3	2	...	2	...	...	...	...
1– 4 years	1	3	4	...	...	...	167	150	317	2	...	2	356	376	732	15	21	36	13	8	21	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	3	2	5	...	...	...	...	...	...	...
5–14	3	4	7	...	...	...	330	492	822	1	2	3	571	675	1,246	23	23	46	15	8	23	...	...	...	...	...	...	...	...	...	...	2	2	1	1	2	2	3	5	1	1	2	...	...	...	...
15–24	7	5	12	...	...	...	46	121	167	...	...	...	53	111	164	...	...	...	1	...	1	...	...	...	...	1	1	...	1	1	...	1	1	...	...	...	72	157	229	25	40	65	49	49	5	5
25–34	3	3	6	1	1	2	46	88	134	...	...	...	20	88	108	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	140	146	286	53	58	111	92	92	10	10
35–44	1	1	2	...	1	1	26	27	53	...	...	...	13	31	44	...	...	...	1	...	1	1	...	1	...	1	1	...	...	...	1	...	1	...	...	...	191	94	285	78	49	127	29	29	3	3
45–54	...	1	1	...	1	1	8	10	18	...	...	...	9	12	21	...	...	...	1	...	1	1	...	1	1	...	1	1	...	1	...	...	...	...	...	...	177	55	232	98	27	125	...	...	...	...
55–64	...	1	1	...	...	...	...	2	2	...	...	...	1	8	9	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	142	23	165	94	19	113	...	...	...	...
65 and over	...	...	...	...	...	...	...	2	2	...	...	...	2	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48	19	67	66	22	88	...	...	...	...
Not stated	...	...	...	...	...	...	1	1	2	...	...	...	...	4	4	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...
HUNTER RIVER DISTRICT.																																														
All ages	4	3	7	2	3	5	31	41	72	1	...	1	200	268	468	5	2	7	...	2	2	...	...	...	1	1	2	1	...	1	1	...	1	...	...	...	55	35	90	51	17	68	10	10	7	7
Under 1 year	...	...	...	...	...	...	...	1	1	...	...	...	8	7	15	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
1– 4 years	...	...	...	...	...	...	7	4	11	1	...	1	80	66	146	4	...	4	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5–14	...	1	1	...	...	...	16	22	38	...	...	...	83	123	206	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...
15–24	1	...	1	1	1	2	6	6	12	...	...	...	15	33	48	...	...	...	...	...	...	...	...	...	1	...	1	1	...	1	...	...	...	...	...	...	3	6	9	...	...	...	4	4	2	2
25–34	2	...	2	...	...	...	1	4	5	...	...	...	7	21	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	11	21	6	7	13	5	5	3	3
35–44	...	...	...	...	...	...	1	3	4	...	...	...	3	9	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	8	18	7	5	12	...	...	2	2
45–54	1	1	2	1	1	2	...	...	...	...	...	...	...	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	4	16	16	1	17	...	...	...	...
55–64	...	1	1	...	1	1	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	15	2	17	12	2	14	...	...	...	...
65 and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	2	7	10	2	12	...	...	...	...
Not stated	...	...	...	...	...	...	...	1	1	...	...	...	4	3	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
iBROKEN HILL DISTRICT.																																														
All ages	13	10	23	1	...	1	55	87	142	...	...	...	4	5	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	1	10	3	13	14	3	17	2	2	1	1
Under 1 year	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1– 4 years	1	...	1	...	...	...	16	13	29	...	...	...	1	3	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	1	...	...	...	...	...	...	...	...	...	...
5–14	4	2	6	...	...	...	31	62	93	...	...	...	2	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15–24	3	1	4	1	...	1	3	5	8	...	...	...	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
25–34	...	5	5	...	...	...	1	4	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	3	...	3	3	1	1	...	...
35–44	2	1	3	...	...	...	2	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	4	3	...	3	1	1	1	1
45–54	3	1	4	...	...	...	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	2	...	2	...	...	...	...
55–64	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	7	...	7	...	...	...	...
65 and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	2	...	2	...	...	...	...
Not stated	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
REMAINDER OF STATE.																																														
All ages	44	11	55	8	...	8	306	448	754	5	5	10	596	805	1,401	33	20	53	14	6	20	3	...	3	2	1	3	...	1	1	5	3	8	1	2	3	223	168	391	165	108	273	57	57	26	26
Under 1 year	...	...	...	...	...	...	3	5	8	...	1	1	8	14	22	3	1	4	...	...	...	...	...	...	...	...	...	...	1	1	1	...	1	...	...	...	1	...	1	2	2	4	...	...	...	...
1– 4 years	...	...	...	...	...	...	71	91	162	3	2	5	206	184	390	17	10	27	2	...	2	...	...	...	...	1	1	...	...	...	...	2	2	...	2	2	1	1	2	1	...	1	...	...	...	...
5–14	14	6	20	1	...	1	164	233	397	1	...	1	274	322	596	12	9	21	8	5	13	...	...	...	...	...	...	...	...	...	2	1	3	...	...	...	...	5	5	...	1	1	...	...	...	...
15–24	17	2	19	3	...	3	30	55	85	...	...	...	38	127	165	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2	...	2	1	...	1	32	38	70	11	24	35	20	20	6	6
25–34	6	1	7	2	...	2	25	44	69	1	1	2	43	81	124	1	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46	79	125	25	37	62	15	15	12	12
35–44	5	1	6	2	...	2	8	9	17	...	...	...	17	39	56	...	...	...	...	1	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	44	20	64	26	14	40	14	14	8	8
45–54	1	1	2	...	...	...	3	4	7	...	...	...	2	21	23	...	...	...	1	...	1	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	49	11	60	42	9	51	...	...	...	...
55–64	...	...	...	...	...	...	...	2	2	...	...	...	...	6	6	...	...	...	1	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	30	8	38	36	10	46	...	...	...	...
65 and over	...	...	...	...	...	...	...	1	1	...	1	1	2	1	3	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	20	6	26	22	11	33	...	...	...	...
Not stated	1	...	1	...	...	...	2	4	6	...	...	...	6	10	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	8	...	...

TABLE V.—Showing the seasonal prevalence of Cerebro-spinal Fever (Meningococcal Meningitis), Diphtheria, and Membranous Croup, Infantile Paralysis (Acute Anterior Poliomyelitis), Encephalitis Lethargica, Scarlet Fever, Typhoid Fever (including Paratyphoid), Pulmonary Tuberculosis, and Puerperal Infection in New South Wales for the year ended 31st December, 1937.

Typhoid and Paratyphoid Fever.

Month—	Metropolitan Combined Districts.		Hunter River Combined Districts.		Broken Hill District.		Remainder of State.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
January ...	5	1	...	...	...	...	3	...	8	1
February ...	...	...	1	...	6	...	15	2	22	2
March	14	1	...	...	3	...	9	3	26	4
April	1	...	1	1	...	...	7	1	9	2
May	3	1	1	1	...	...	8	1	12	3
June	2	...	...	...	...	...	...	...	2	...
July	1	1	1	...	...	...	2	...	4	1
August	1	...	...	1	...	...	1	...	2	1
September ...	...	...	...	...	...	...	2	...	2	...
October	3	...	...	...	...	...	1	...	4	...
November ...	1	...	1	...	12	...	4	...	18	...
December ...	2	...	2	2	2	1	3	1	9	4
Total	33	4	7	5	23	1	55	8	118	18

Encephalitis Lethargica.

Month—	Metropolitan Combined Districts.		Hunter River Combined Districts.		Broken Hill District.		Remainder of State.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
January ...	...	...	...	...	...	...	...	...	...	...
February ...	...	...	...	...	...	...	...	...	...	...
March	1	1	...	...	...	...	...	...	1	1
April	...	...	...	...	...	...	1	1	1	1
May	1	1	...	...	...	...	...	...	1	1
June	...	...	...	...	...	...	...	...	...	...
July	...	...	1	1	...	...	...	...	1	1
August	...	...	...	...	...	...	1	...	1	...
September ...	1	...	...	...	...	...	...	...	1	...
October	...	...	1	...	...	...	...	...	1	...
November ...	...	...	...	...	...	...	...	...	...	...
December ...	1	...	...	...	...	...	1	...	2	...
Total	4	2	2	1	...	...	3	1	9	4

Tuberculosis.

Month—	Metropolitan Combined Districts.		Hunter River Combined Districts.		Broken Hill District.		Remainder of State.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
January ...	94	41	2	5	...	1	29	22	125	69
February ...	96	43	15	3	1	...	52	12	164	58
March	108	47	5	7	...	...	43	25	156	79
April	127	69	14	6	3	3	44	26	188	104
May	120	62	8	8	1	1	37	22	166	93
June	105	59	2	5	...	1	39	32	146	97
July	133	64	3	7	1	...	32	26	169	97
August	93	58	12	7	1	2	10	27	116	94
September ...	85	45	2	3	...	2	19	24	106	74
October	100	39	...	6	1	1	29	15	130	61
November ...	108	51	19	6	1	5	30	21	158	83
December ...	108	55	8	5	4	1	27	21	147	82
Total	1,277	633	90	68	13	17	391	273	1,771	991

Scarlet Fever.

Month—	Metropolitan Combined Districts.		Hunter River Combined Districts.		Broken Hill District.		Remainder of State.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
January ...	182	1	4	...	1	...	86	...	273	1
February ...	92	1	4	...	4	...	55	...	155	1
March	128	1	7	...	12	...	78	2	225	3
April	133	1	4	...	29	...	75	...	241	1
May	153	1	7	...	24	...	63	1	247	2
June	122	...	4	...	9	...	69	3	204	3
July	173	...	12	...	6	...	52	1	243	1
August	126	...	13	1	10	...	66	...	215	1
September ...	145	1	6	...	17	...	63	...	231	1
October	88	...	4	...	11	...	52	1	155	1
November ...	92	...	2	...	11	...	54	1	159	1
December ...	91	...	5	...	8	...	41	1	145	1
Total	1,525	6	72	1	142	...	754	10	2,493	17

Infantile Paralysis.

Month—	Metropolitan Combined Districts.		Hunter River Combined Districts.		Broken Hill District.		Remainder of State.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
January ...	1	...	...	...	...	...	2	...	3	...
February ...	...	...	...	...	...	...	...	...	...	...
March	1	...	...	...	...	...	...	...	1	...
April	1	...	...	...	...	...	...	...	1	...
May	2	1	...	...	...	...	...	...	2	1
June	1	...	...	...	...	...	1	...	2	...
July	2	...	...	...	...	...	...	...	2	...
August	...	...	...	...	...	...	2	1	2	1
September ...	1	...	...	...	...	...	3	2	4	2
October	3	...	...	...	...	...	2	...	5	...
November ...	11	...	...	...	...	...	7	...	18	...
December ...	25	1	2	...	...	...	3	...	30	1
Total	48	2	2	...	...	...	20	3	70	5

Puerperal Infection.

Month—	Metropolitan Combined Districts.		Hunter River Combined Districts.		Broken Hill District.		Remainder of State.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
January ...	16	1	1	1	...	...	2	1	...	3
February ...	12	1	...	...	...	...	2	2	...	3
March	15	2	2	1	...	...	6	3	...	6
April	8	1	2	...	...	1	5	3	...	5
May	12	1	...	...	1	...	3	1	...	2
June	13	4	2	...	1	...	5	3	...	7
July	13	1	1	...	...	...	4	4	...	5
August	16	2	...	2	...	...	8	1	...	5
September ...	21	2	1	1	...	...	8	4	...	7
October	16	1	...	...	...	...	8	1	...	2
November ...	13	2	1	2	...	...	4	2	...	6
December ...	17	...	...	...	...	...	2	1	...	1
Total	172	18	10	7	2	1	57	26	241	52

Diphtheria.

Month—	Metropolitan Combined Districts.		Hunter River Combined Districts.		Broken Hill District.		Remainder of State.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
January ...	149	5	32	1	...	...	149	6	330	12
February ...	150	7	50	1	3	...	136	4	339	12
March	153	5	63	...	...	...	148	6	364	11
April	222	8	54	...	2	...	141	6	419	14
May	350	17	55	...	1	...	132	4	538	21
June	257	6	36	2	1	...	139	8	433	16
July	304	10	30	...	...	...	94	1	428	11
August ...	205	5	38	1	...	...	84	4	327	10
September ...	163	3	37	1	...	...	86	7	286	11
October	116	3	25	...	1	...	80	2	222	5
November ...	160	8	21	1	1	...	89	1	271	10
December ...	137	6	27	...	...	...	123	4	287	10
Total	2,366	83	468	7	9	...	1,401	53	4,244	143

Cerebro spinal Meningitis.

Month—	Metropolitan Combined Districts.		Hunter River Combined Districts.		Broken Hill District.		Remainder of State.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
January ...	1	1	...	...	...	...	...	...	1	1
February ...	...	1	...	...	...	...	2	1	2	2
March	...	...	...	...	...	...	2	...	2	...
April	...	...	...	...	...	...	...	...	...	...
May	...	...	...	...	...	...	...	...	...	...
June	...	...	...	...	...	...	...	...	...	...
July	1	1	1	...	...	...	1	...	3	1
August	1	...	...	...	1	1	...	...	2	1
September ...	2	...	...	...	...	...	1	1	3	1
October	1	...	...	...	...	...	2	1	3	1
November ...	1	...	...	...	...	...	...	...	1	...
December ...	...	...	...	...	...	...	...	...	...	...
Total	7	3	1	...	1	1	8	3	17	7

SUMMARY.

District.	Typhoid Fever.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Puerperal Infection.		Pulmonary Tuberculous.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Metropolitan Combined Sanitary District	33	4	1,525	6	2,366	83	48	2	7	3	4	2	172	18	1,277	632
Hunter River Combined District	7	5	72	1	468	7	2	...	1	...	2	1	10	7	90	68
Broken Hill District	23	1	142	...	9	...	...	...	1	1	...	...	2	1	13	17
Remainder of State—																
Municipalities	28	6	319	4	661	18	5	...	1	...	2	1	29	13	391	102
Shires	22	2	433	6	732	34	14	3	7	3	1	...	28	13		166
Western Division	5	...	2	...	8	1	1	...	...	...	...	...	...	...		5
Lord Howe Island.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	118	18	2,493	17	4,244	143	70	5	17	7	9	4	241	52	1,771	991

TABLE VI.—Showing the number of Cases of Infectious Diseases notified in the State of New South Wales during the years 1898 to 1937, inclusive, and the number of deaths therefrom.

Year.	Population.	Typhoid Fever.*		Scarlet Fever.*		Diphtheria.*		Plague.†		Infantile Paralysis.‡		Cerebro-spinal Meningitis.§		Encephalitis Lethargica.‖		Pulmonary Tuberculosis.¶		Puerpera Infection.**	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths
1898	1,323,130	3,302	387	6,342	83	1,493	169	...	...	...	...	...	...	...	...	...	...	...	...
1899	1,344,080	2,783	347	1,389	25	741	60	...	...	...	...	...	...	...	...	...	...	...	...
1900	1,364,590	3,442	398	895	9	726	63	303	103	...	...	...	...	...	...	...	...	...	...
1901	1,376,199	2,702	291	1,288	16	922	131	...	...	...	...	...	...	...	...	...	...	...	...
1902	1,397,858	2,624	276	2,010	61	757	74	140	41	...	...	...	...	...	...	...	...	...	...
1903	1,416,879	4,855	475	5,358	87	1,214	134	2	...	...	...	...	...	...	...	...	...	...	...
1904	1,440,919	2,370	249	4,056	50	1,584	156	12	6	...	...	...	...	...	...	146	...	...	...
1905	1,469,153	2,226	239	1,773	21	1,118	102	56	21	...	...	...	...	...	...	128	...	...	...
1906	1,498,609	2,373	271	3,085	42	1,219	100	20	8	...	...	...	...	...	...	118	...	...	...
1907	1,531,980	1,972	189	2,570	26	1,376	133	51	20	...	...	...	...	...	...	161	...	...	...
1908	1,560,026	2,607	307	2,755	40	2,001	123	6	3	...	...	...	...	...	...	112	...	...	...
1909	1,596,685	2,615	287	7,178	30	2,419	166	24	7	...	...	...	...	...	...	196	...	...	...
1910	1,638,220	2,714	294	1,642	23	4,989	207	...	...	...	...	...	...	...	...	184	...	...	...
1911	1,698,735	1,864	184	2,618	11	4,784	226	...	...	...	...	...	...	...	...	222	...	...	...
1912	1,778.962	2,126	236	662	11	5,440	253	...	...	...	...	...	...	...	...	265	...	...	...
1913	1,832,546	2,187	236	1,120	23	6,380	310	...	...	47	10	...	...	...	...	228	...	...	...
1914	1,862,028	2,284	250	3,207	21	5,831	247	...	...	79	14	...	...	...	...	293	...	...	...
1915	1,868,644	1,941	219	8,335	97	5,838	264	...	...	63	11	50	33	...	...	361	86	...	...
1916	1,846,736	1,742	209	5,759	107	6,588	309	...	...	311	21	309	145	...	...	1,499	666	...	...
1917	1,886,701	1,091	103	2,255	27	5,805	247	...	...	16	12	197	98	...	...	1,319	584	...	...
1918	1,928,174	810	112	1,308	15	5,151	221	...	...	50	12	120	80	...	...	1,308	586	...	...
1919	2,000,173	857	106	959	10	2,826	114	...	...	8	3	28	23	...	...	1,102	678	...	...
1920	2,099,763	1,016	132	937	24	5,043	263	...	...	45	10	34	27	...	...	1,509	674	...	...
1921	2,128,786	949	129	1,060	8	6,854	306	2	1	184	22	30	28	...	...	1,240	791	...	...
1922	2,174,688	706	99	1,153	11	4,094	207	33	9	33	5	21	22	...	...	1,045	517	...	...
1923	2,211,106	873	104	2,623	13	3,480	176	1	1	104	8	27	22	...	...	1,218	657	...	...
1924	2,256,649	768	97	3,421	29	4,364	222	...	...	108	6	29	38	...	...	1,096	730	...	...
1925	2,300,081	533	80	3,043	27	3,004	118	...	...	57	14	37	27	...	...	1,195	617	...	...
1926	2,349,401	698	80	4,755	53	3,579	147	...	...	81	21	32	23	...	...	1,265	705	...	...
1927	2,401,884	460	68	8,369	113	4,059	179	...	...	25	4	25	10	3	27	1,158	632	...	...
1928	2,446,874	453	60	5,531	105	3,835	168	...	...	30	2	31	8	18	23	1,212	815	...	...
1929	2,479,147	438	45	5,219	78	4.274	215	...	...	241	29	28	10	26	30	1,215	1,152	44	79
1930	2,502,039	380	48	4,400	54	4,051	176	...	...	30	6	43	12	14	20	1,917	1,022	269	82
1931	2,519.300	340	35	4,477	36	4,432	168	...	...	103	10	30	9	20	16	1,588	1,014	319	83
1932	2,542,034	233	31	4,905	57	4,310	160	...	...	384	44	43	7	12	18	1,485	969	292	59
1933	2,613,776	188	28	4,259	55	3,912	169	...	...	13	4	24	5	11	15	1,441	951	222	100
1934	2,623,817	141	19	2,166	19	6,167	193	...	...	94	13	29	7	6	15	1,509	955	238	63
1935	2,645,575	173	20	2,250	18	4,913	194	...	...	181	20	29	5	7	16	1,571	939	266	72
1936	2,681,736	132	19	3,939	26	7,064	220	...	...	23	6	11	4	7	5	1,372	955	326	82
1937	2,694,679	118	18	2,493	17	4,244	143	...	...	70	5	17	7	9	4	1,771	991	241	52

* Notifiable from 1st January, 1898.
† „ 23rd January, 1900.
‡ „ 1st February, 1912. Proclamation re-issued 14th August, 1931.
§ „ 1st April, 1926.
‖ „ 11th October, 1915.
¶ „ 1904, city of Sydney only; from 1915, Metropolitan and Hunter River Districts; from 1916, Blue Mountain Districts. Notification extended to whole State, March, 1929.
** „ 16th August, 1929.

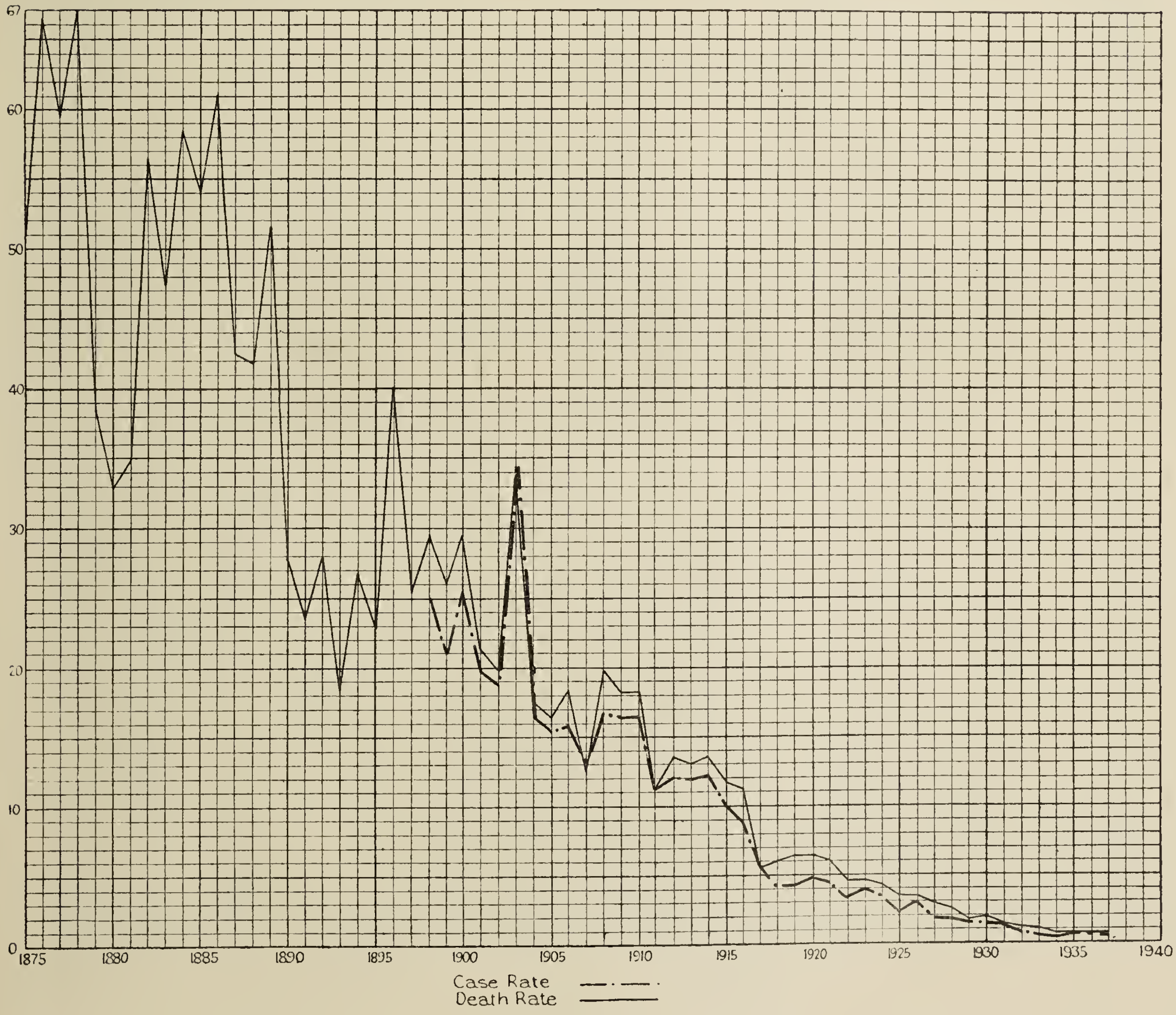
GRAPHS.

Typhoid Fever, Scarlet Fever, Diphtheria } Annual Death Rate per 100,000 (1875-1937) and Case Rate per 10,000 of population (1898-1937).
Infantile Paralysis. Annual Death Rate and Case Rate per 100,000 of the population, 1913–1937.
Whooping Cough, Pneumonia, Measles } Annual Death Rate per 100,000 of population in New South Wales, 1875–1937.

TYPHOID FEVER.

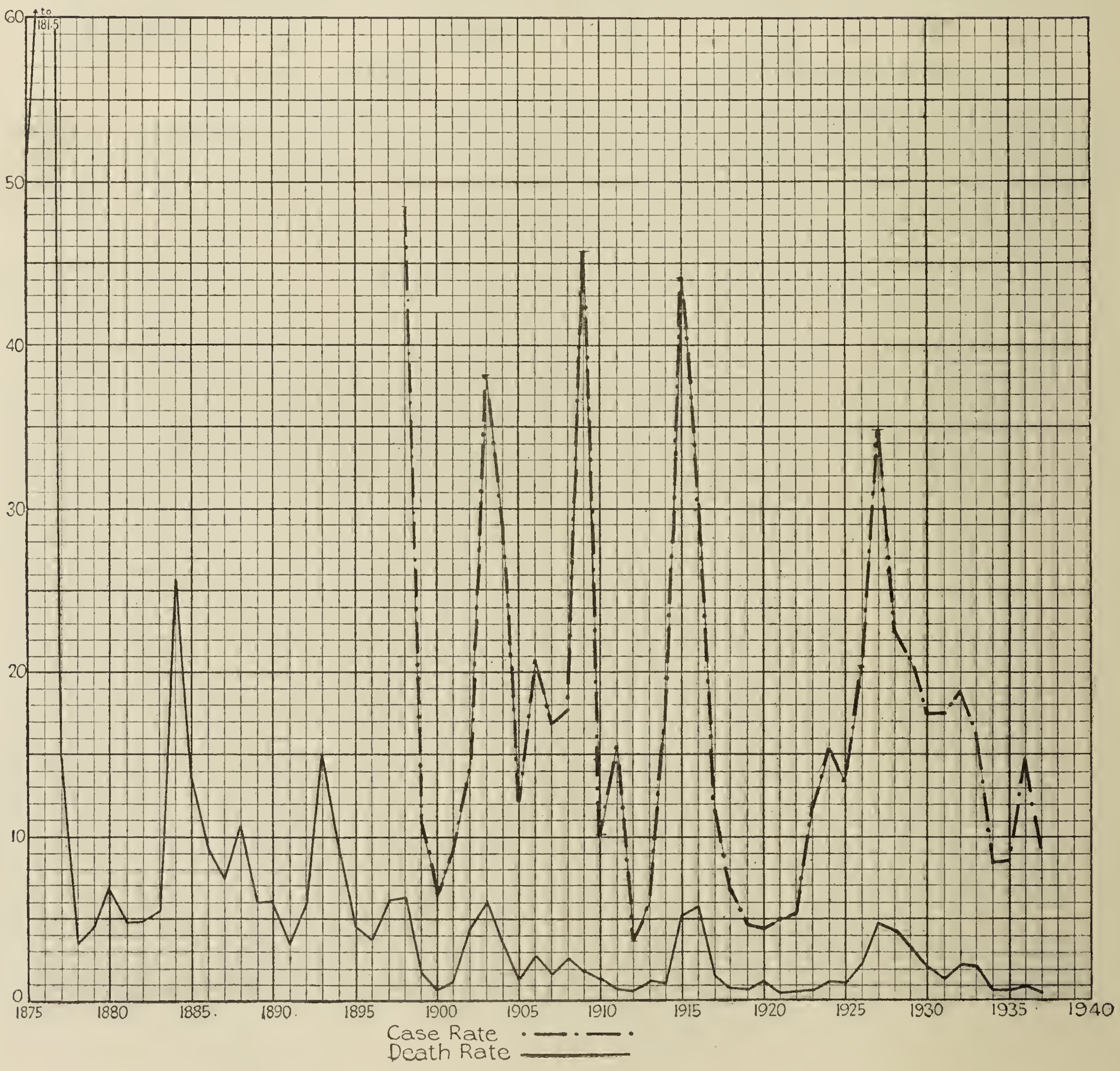
Annual Death Rate, New South Wales, per 100,000 of the Population, 1875-1937.
,, Case ,, ,, ,, ,, ,, 10,000 ,, ,, 1898-1937.

Death Rate.—1875-1937. Case Rate.—1898-1937.



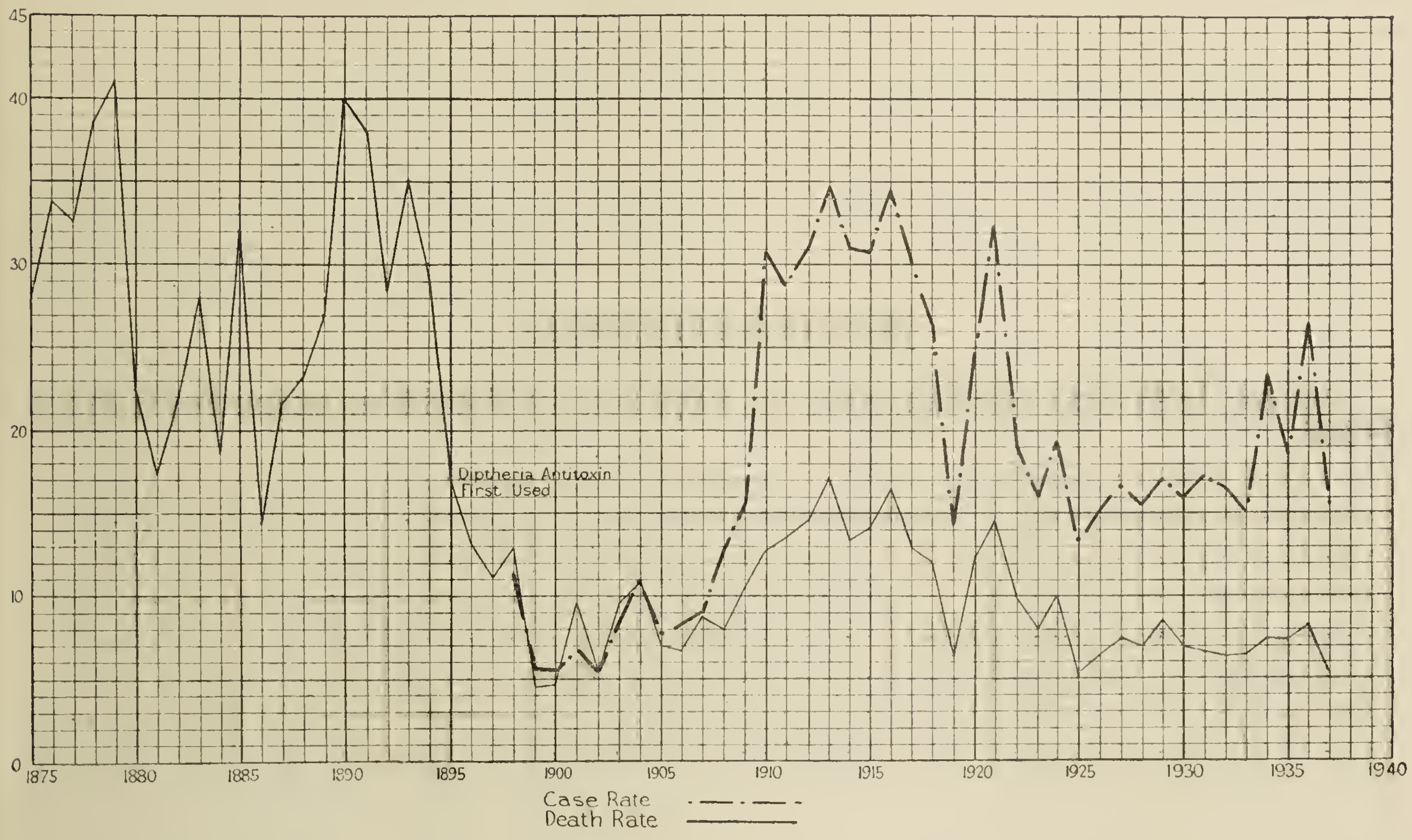
SCARLET FEVER.

Annual Death Rate per 100,000 of the Population, 1875-1937, and Annual Case Rate per 10,000 of the Population in New South Wales, 1898-1937.



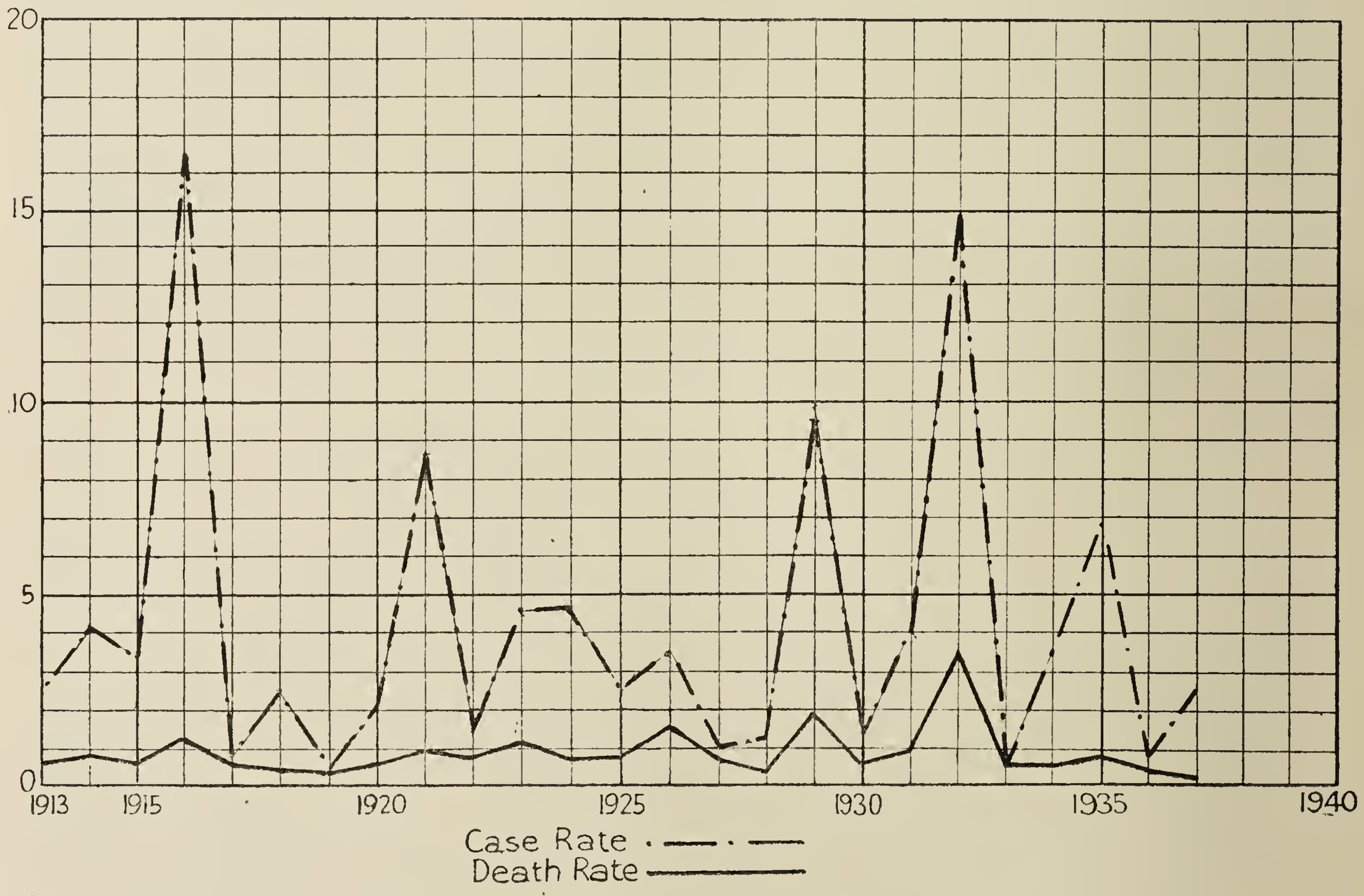
DIPHTHERIA.

Annual Death Rate per 100,000 of the population, 1875–1937, and Annual Case Rate per 10,000 of population in New South Wales, 1898-1937.



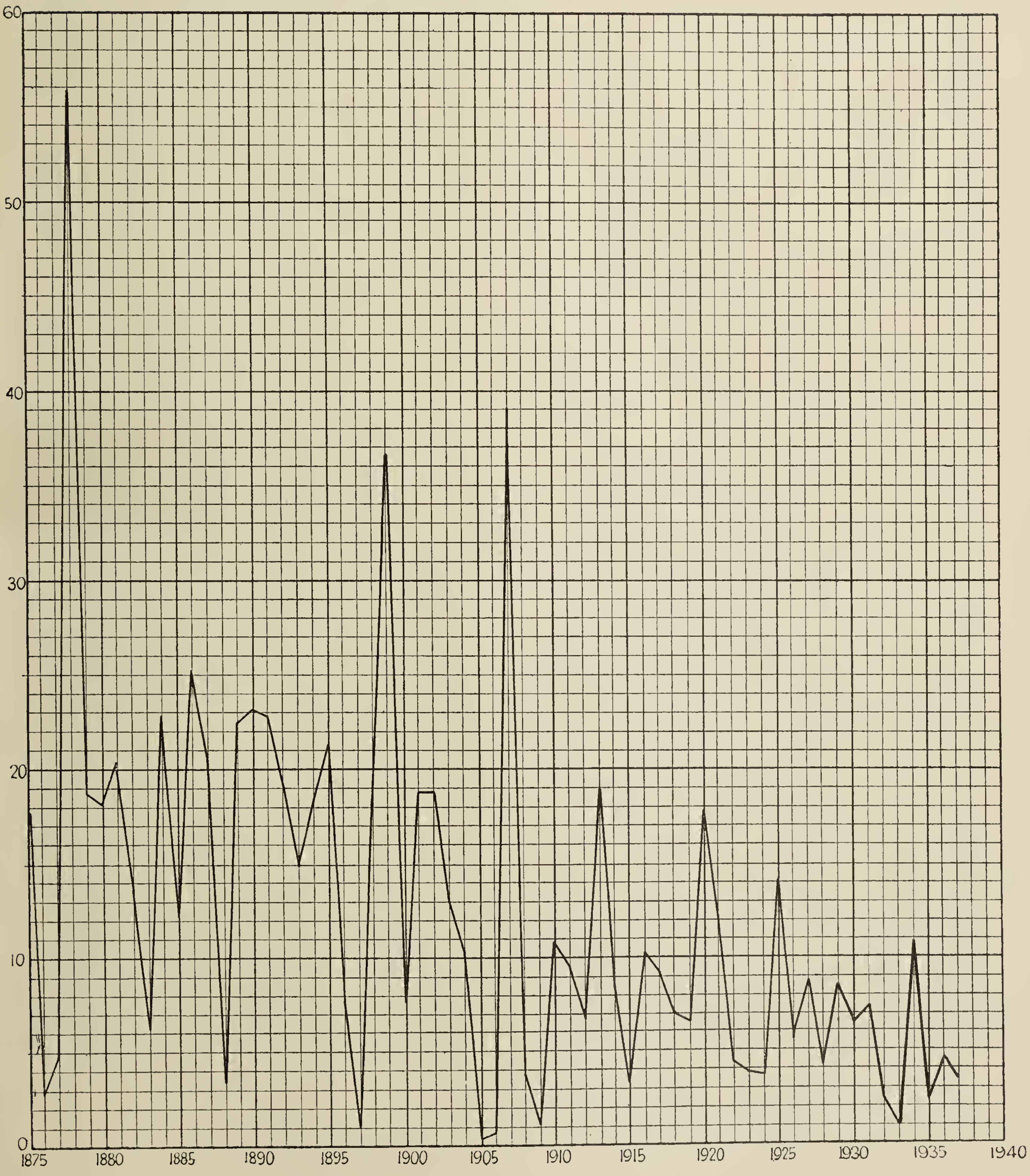
INFANTILE PARALYSIS.

Annual Death Rate and Case Rate per 100,000 of the Population in New South Wales, 1913-1937.



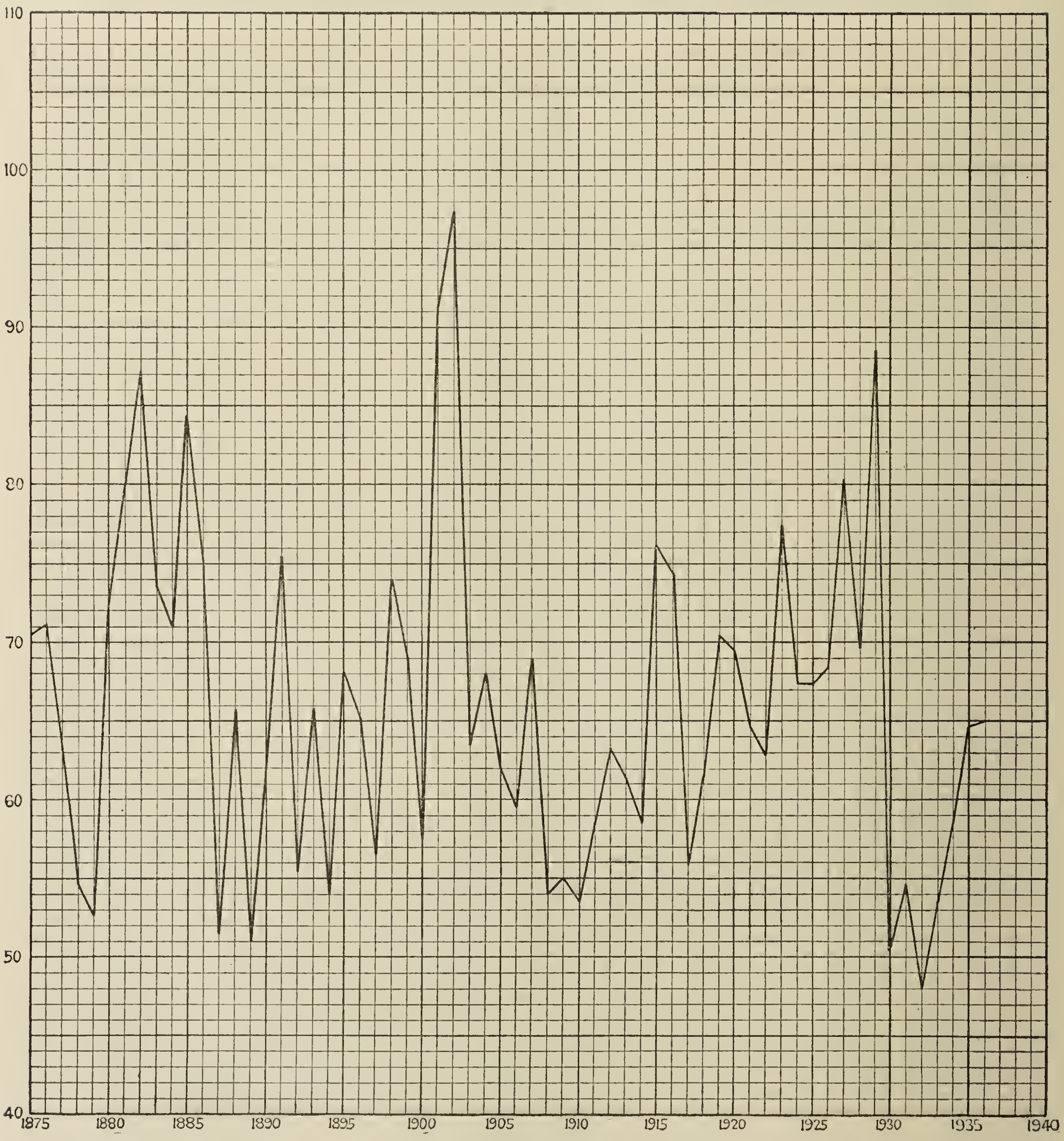
WHOOPING COUGH.

Annual Death Rate per 100,000 of Population in New South Wales, 1875-1937.



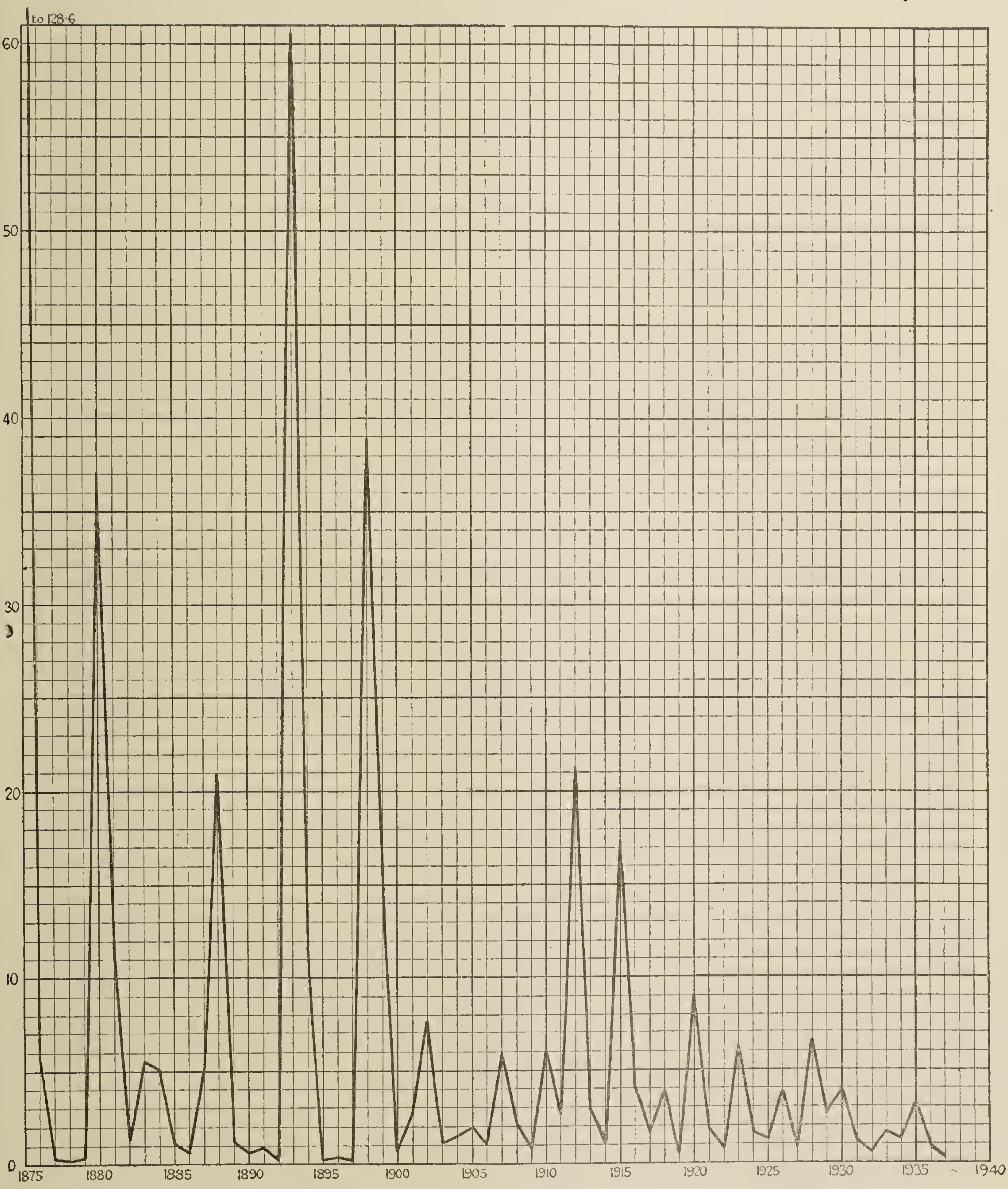
PNEUMONIA.

Annual Death Rate per 100,000 of Population in N.S.W., 1875-1937.



MEASLES.

Annual Death Rate per 100,000 of Population in N.S.W., 1875-1937.



DIVISION OF SOCIAL HYGIENE.

REPORT OF THE DIRECTOR, DIVISION OF SOCIAL HYGIENE (J. COOPER BOOTH, M.B., Ch.B.) TO THE COMMISSIONER UNDER THE VENERAL DISEASES ACT, 1918 (E. SYDNEY MORRIS, M.D., Ch.M., D.P.H., DIRECTOR-GENERAL OF PUBLIC HEALTH) FOR THE YEAR ENDING 31st DECEMBER, 1937.

Staff.

Director: J. Cooper Booth, M.B., Ch.B.; Medical Officers: J. H. Abbott, M.B., Ch.M.; H. V. Hanson, M.B., Ch.M.; F. W. Fraser, M.B., Ch.M.; Clerical: L. Maher and three assistants; Clinic Assistants: R. C. Lewry and five attendants.

The name of the Division was changed from "Division of Venereal Diseases" to "Division of Social Hygiene."

The year under review has been an interesting one, though one of little progress in the control of venereal disease. Notifications of infection have been greater than during any period since the year 1927, and this has been due to an increase in the number of gonococcal infections. Gonorrhoea is at present our major problem, for it is now apparent that syphilis has definitely decreased. The majority of syphilitic infections which have been reported are old infections which have been discovered in the later years of life. At our Divisional Clinic for males, only 15 (5·9 per cent.) primary infections were diagnosed in 253 patients in whom syphilis was detected.

In the routine examination of our clinic patients we discovered that 1·4 per cent. of those suffering from gonorrhoea were also infected with syphilis.

Old established syphilis is not a menace to the community so far as the spread of disease is concerned, but those infected are, in many instances, an added charge to the State on account of early invalidity. They are an unnecessary debit carried forward from an unprotected past.

The decrease in fresh syphilitic infection is due to some unknown cause. It is not due to any recent efforts to control the disease so far as New South Wales is concerned. This fall in the incidence of primary syphilis raises the question whether the decline reported by some European countries may not be chiefly due to some cause other than organised effort. It is possible that the incidence of syphilis may regularly rise and fall in great incidence curves covering centuries.

The control of the spread of syphilis, and of all venereal disease, lies chiefly in prophylactic measures. The efficient treatment of disease when established is naturally of importance, but prophylaxis is of greater importance so far as the protection of civilisation is concerned. Because this is so, it is doubtful if we will ever eradicate syphilis or gonorrhoea, for people are too careless and too lazy to take preventive measures after every illicit intercourse. Of the former patients of our Divisional Clinic who returned for advice during the year, 457 had fresh infections, and of these infections 7 are syphilitic. All these people knew of the importance of prophylaxis and where it was available, but none of them had made use of it. The young men are the greatest offenders, for of those who returned with fresh infections, 197 (43·1 per cent.) were aged 25 years and under. The middle-aged and older men are more careful as a rule after infection. We have had youths who have had three separate gonococcal infections before the age of 21.

There has been criticism of compulsory notification and attendance, and opinions have been expressed that such procedure is undesirable and that just as satisfactory results could be obtained on a voluntary basis. I do not believe this to be so. Compulsion has not failed, though it has not been completely successful. More people attend, continue to attend, and return after default, than would be the case if we were without a Venereal Diseases Act. We cannot be judged on the number of legal actions taken for breaches of the Act, because we are loth to take action in Court, and rely chiefly on persuasive powers. The important thing is that the Act exists to aid us if necessary in dealing with people who persist in being foolish. The figures dealing with defaulters are of interest. This year there has been an increase of 19·2 per cent. over last year, due chiefly to the system of monthly balance at the Divisional Clinic. This evens up in the number shown as having resumed treatment, and gives a lower percentage remaining in default than was the case last year.

The penalty imposed by the Court for default is a loaded one, and the future behaviour of the patient decides whether his punishment is severe or light. A bond up to £20 to be of good behaviour for one year and to attend a clinic or private practitioner as directed, and costs averaging 8s., is the usual procedure. The magistrates treat the incident sympathetically, pointing out to the accused his obligations under the Act, and warning him of the probable result of a further breach. So far, the results have been satisfactory.

Much advice has been given during the year to enquirers on sex matters, by personal interview and by correspondence. The public are willing to learn and eager to bring their difficulties to a centre where they know they will be sympathetically received and their enquiries treated confidentially. Several family disagreements have been settled in my office, and ideas of divorce laid aside.

Our Divisional Clinic is overcrowded, and the provision of adequate accommodation with increased staff is now a matter of urgency. We have been too successful in attracting patients, but are unwilling to limit the number unless circumstances compel such action. At present our service cannot be of the standard we desire. We look forward hopefully to the provision of new quarters, in which we may carry out the necessary improvements.

In previous reports attention was drawn to the desirability of uniform State action. So far as Australia is concerned, we have a greater opportunity than other countries to initiate reforms, for we are still young amongst nations and our population is small. Independent State action is not without value in many spheres, but there are certain activities in which co-operation and co-ordination are essential if the maximum of benefit is to be obtained. We must think nationally when we consider the control of venereal disease, and not parochially as States, each going its own way.

The formation of a Board or Committee, with a representative from each State and one from the Commonwealth, to co-ordinate the activities of the several States, would be of decided value. Once again I bring this recommendation under notice.

VENEREAL DISEASES ACT, 1918.

REPORT ON NOTIFICATIONS RECEIVED UNDER THE VENEREAL DISEASES ACT, 1918, FOR THE YEAR ENDED 31st DECEMBER, 1937.

Five thousand six hundred and twelve notifications of veneral disease were received during 1937, an increase of 452 compared with the year 1936. Of the notifications, 20·83 per cent. came from private medical practitioners, as compared with 25·64 per cent. in 1936, and 30·09 per cent. in 1935.

Syphilis.—Of the 5,612 total notifications received during 1937, 997 were for syphilitic infections (males 706, and females 291), a figure 63 below that for 1936. The sex ratio of notified cases of syphilis for 1937 was 2·43 males to 1 female. Of the cases of syphilis notified in 1937, 11·13 per cent. were being treated privately, as compared with 9·62 per cent. in 1936 and 11·37 in 1935. Of the total notifications of venereal disease in 1937, syphilis contributed 17·67 per cent., as compared with 20·54 per cent. in 1936 and 23·67 per cent. in 1935. The notifications of syphilis gave a ratio of 36·9 per 100,000 of population for 1937, as compared with 39·5 per 100,000 in 1936 and 43·2 per 100,000 in 1935.

Gonorrhoea.—Of the 5,612 total notifications received during 1937, 4,227 were for cases of gonorrhoea (males 3,576, and females 651), a figure 490 in excess of that for 1936. The sex ratio of notified cases of gonorrhoea was 5·49 males to 1 female. Of the cases of gonorrhoea notified in 1937, 20·11 per cent. were being treated privately, as compared with 25·21 per cent. in 1936 and 28·96 per cent. in 1935. The percentage of cases of gonorrhoea notified in the total notifications of venereal disease was 75·32 per cent., compared with 72·42 per cent. in 1936 and 66·87 per cent. in 1935. The notifications of gonorrhoea gave a ratio of 156·9 per 100,000 of population for 1937, compared with 139·3 per 100,000 in 1936 and 122·1 per 100,000 in 1935.

OTHER FORMS OF VENERAL DISEASE.

Soft Chancre (Chancroid).—Three cases (all male) were notified, being ·05 per cent. of the total notifications compared with ·04 per cent. in 1936 and ·10 per cent. in 1935.

Gonococcal Ophthalmia.—One case (male) was notified, being ·02 per cent. of the total notifications compared with ·15 per cent. in 1936 and ·41 in 1935.

Venereal Warts.—Forty cases (38 male and 2 female) were notified, being ·71 per cent. of the total notifications compared with ·72 per cent. in 1936 and 1·62 per cent. in 1935.

Gleet.—Three hundred and forty-four cases (343 male and 1 female) were notified, being 6·13 per cent. of the total notifications compared with 6·12 per cent. in 1936 and 8·26 per cent. in 1935.

Venereal Granuloma.—There were no notifications.

53·6 per cent. of notifications under the above group heading (other forms of Venereal Disease) came from private medical practitioners.

VENEREAL DISEASES NOTIFICATIONS, 1929 to 1937 (inclusive).

Year.	Total. Notifications.	Percentage Grouping in Notifications for year.			Mean Population.	Rate per 10,000 of Mean Population.		
		Syphilis.	Gonorrhoea.	Other V.D.		Syphilis.	Gonorrhoea.	Other V.D.
1929	5,226	19·04	76·14	4·82	2,464,510	4·04	16·14	1·02
1930	5,225	27·02	68·08	4·90	2,489,657	5·67	14·29	1·03
1931	4,617	24·26	68·96	6·78	2,510,083	4·46	12·46	1·25
1932	4,842	29·16	65·34	5·50	2,531,330	5·57	12·50	1·06
1933	4,809	27·01	66·48	6·51	2,602,037	4·99	12·29	1·20
1934	4,721	23·72	66·70	9·58	2,623,817	4·27	12·00	1·72
1935	4,829	23·67	66·87	9·46	2,645,575	4·32	12·21	1·72
1936	5,160	20·54	72·42	7·04	2,681,736	3·95	13·93	1·35
1937	5,612	17·67	75·32	6·91	2,694,679	3·69	15·69	1·44

SEX RATIO IN VENEREAL DISEASE NOTIFICATIONS.

The sex ratio for the total notifications of venereal disease for 1937 is 4·93 males to 1 female. The figures for the past seventeen years are as follow :—

1921 ...	6·44 males to 1 female.	1930 ...	5·28 males to 1 female.
1922 ...	7·69 ,, ,,	1931 ...	3·94 .. ,,
1923 ...	8·72 ,, ,,	1932 ...	4·27 ,, ,,
1924 ...	7·83 .. ,,	1933 ...	4·21 ,, ,,
1925 ...	7·75 ,, ,,	1934 ...	3·68 ,, ,,
1926 ...	6·73 ,, ,,	1935 ...	4·22 ,, ,,
1927 ...	6·31 ,, ,,	1936 ...	4·49 ,, ,,
1928 ...	5·00 ,, ,,	1937 ...	4·93 ,, ,,
1929 ...	5·28 ,, ,,		

FAILURE TO CONTINUE TREATMENT.

During 1937, the names and addresses of 2,176 defaulters (1,888 males and 288 females) were notified—a figure 351 in excess of that for 1936. Owing to incorrect information having been given or patients having failed to notify change of address, 701 letters were returned unclaimed, giving 32·21 per centum undelivered letters, compared with 36·77 per cent. in 1936 and 39·84 per cent. in 1935.

The following table shows the percentage of notified defaulters in the last five years who remained apparent permanent defaulters :—

Year.	Total Defaulters Notified.	Resumed Treatment, Dead, or Left State.	Remained in Default.	Percentage Remaining in Default.
1933	713	191	522	73·21
1934	1,472	767	705	47·89
1935	1,521	860	661	43·46
1936	1,825	860	965	52·88
1937	2,176	1,217	959	44·07

CLINICS.

Attendances at clinics for males numbered 198,528 (72·7 per cent. of this total being at the Health Department Clinic), compared with 184,413 for 1936 and 158,902 for 1935.

At the clinics for females the attendances were 31,365 (47·3 per cent. of this total being at the Special Clinic at the Rachael Forster Hospital for Women), compared with 31,975 for 1936 and 33,144 for 1935.

The sex ratio of attendances was 6·33 males to one female in 1937, compared with 5·77 males to 1 female in 1936 and 4·79 males to 1 female in 1935.

Metropolitan District.—Ten clinics are available. The clinic at the Health Department (for males) is continuous. The Special Clinic at the Rachel Forster Hospital for Women has six sessions a week.

Newcastle District.—The clinic at the Newcastle Hospital provides service for the majority of infections in the Newcastle District. There has been a decrease in notifications from this district during the year, and once again attention is drawn to the absurdly small number of notifications from a city of the size of Newcastle.

District General Hospitals.—District Hospitals outside the metropolitan area have provided treatment in varying degree for persons suffering from venereal disease. Treatment in rural districts has always been a difficult matter, but with the exception of one hospital, this year we have had a fair degree of co-operation on the part of medical staffs.

Bed Accommodation.—Beds are available for 23 males and 38 females. There has been a decrease in the beds available for indigent males and others whom it is desirable to keep under control and observation.

Health Department Clinic (93 Macquarie-street, Sydney).—This clinic (for males) in the Division of Social Hygiene, has continued to grow, and the year has closed with 1933 patients on the active list. Increased accommodation is now a matter of urgency. 57·8 per cent. of all notified gonorrhoea in the male, and 35·8 per cent. of all notified syphilis in the male for the year 1937 was notified from this clinic. The following figures give a record of the registrations and discharges, etc., for 1937 :—

Patients carried forward from 1936 ...			1,685
New patients registered in 1937 ...		3,771	
Former patients who have re-attended after discharge ...		2,059	
		5,830	
Gonorrhoea ...	2,066		
Syphilis ...	253		
Venereal Warts ...	32		
Chancroid ...	1		
	2,352		
Non-Venereal ...	3,478		
	5,830		5,830
Total ...			7,515

Attendances—144,264.

Return showing cases finalised at the Divisional Clinic during 1937 :—

	Syphilis.	Gonorrhoea.	Venereal Warts.	Non-Venereal.	Chancroid.	Not Diagnosed.	Total.
Discharged	163	1,364	30	2,566	...	...	4,123
Transfers	104	250	...	14	...	90	458
Left New South Wales	85	153	2	24	1	94	359
Defaulters	127	333	5	11	...	166	642
Total	479	2,105	37	2,615	1	350	2,582
Patients remaining on Clinic and carried forward to 1938							1,933
Total under treatment							7,515

Of the 7,515 cases under treatment, 8·5 per cent. became permanent defaulters (showing an increase of 0·9 per cent.) as compared with 7·6 per cent. for 1936.

Pathological Examinations.—Table 3 shows the use made of laboratory tests for diagnostic purposes and progress reports. In 1937, 40,977 serological tests were made in 18,673 specimens; in 1936, the tests were 40,610 on 18,687 specimens; and in 1935, were 34,829 on 16,017 specimens.

In 1937, 19,798 smears were examined for the detection of gonococci, as compared with 17,288 smears in 1936 and 13,726 smears in 1935.

Examination for spirochaetes numbered 99 in 1937, compared with 88 in 1936 and 97 in 1935.

Prosecutions.—There were seven prosecutions under the Venereal Diseases Act, 1918 :—

(*a*) Action taken for breach of section 5 (failure to continue under treatment) :—

1. Bond of £10, 8s. costs.
2. Discharged conditionally, section 556A Crimes Act.
3. Bond of £20.
4. Bond of £20.
5. Fine of £2 10s. 0d. and £1 1s. 0d. costs.
6. Bond of £5.

(*b*) Action taken for breach of section 25 (advertisements of cure of certain diseases) :—

1. Fine of £3 and 8s. costs.

The following Tables are Appended :—

Table 1.—Notifications received during the year 1937 arranged in order of district from which the notifications are received.

Table 2.—Return of cases of Venereal Disease notified during 1937 showing forms of disease and age and sex of patients.

Table 3.—Diagnostic examinations for Venereal Disease made in the Microbiological Laboratory during the years 1935 to 1937, inclusive.

Table 4.—Summary of annual attendances at public clinics, 1935 to 1937.

TABLE 1.—Notifications received during 1935–1937, arranged in order of Districts.

Disease.	Metropolitan Area.			Newcastle District.			Remainder of State.		
	1935.	1936.	1937.	1935.	1936.	1937.	1935.	1936.	1937.
Gonorrhoea	2,851	3,261	3,740	220	291	202	158	185	285
Syphilis	1,041	992	874	74	44	85	28	24	38
Soft Chancre	5	2	2	...	...	1	...	...	...
Gleet	378	306	338	21	10	6	...	...	...
Venereal Warts	29	37	40	...	...	...	1	...	...
Gonorrhoeal Ophthalmia	2	1	...	...	...	...	18	7	1
Venereal Granuloma	3	...	...	...	...	...	...	...	...
Totals	4,309	4,599	4,994	315	345	294	205	216	324

TABLE 2.—Return of Cases of Venereal Disease notified during 1937, showing forms of Disease and Age and Sex of Patients.

Disease.	0–5.		6–10.		11–15.		16–20.		21–25.		26–30.		31–35		36–40.		41–45.		46–50.		Over 50.		Age not Stated.		Totals.		Grand Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Gonorrhoea	1	26	2	27	8	17	446	161	1,080	183	864	108	513	59	262	33	166	13	117	12	104	11	13	1	3,576	651	4,227
Syphilis	14	7	3	7	14	8	30	26	41	36	56	41	58	28	65	34	101	26	93	28	229	45	2	5	706	291	997
Soft Chancre	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	1	...	3	...	3
Gleet	...	...	...	...	...	...	6	...	29	...	86	...	83	1	58	...	41	...	18	...	21	...	1	...	343	1	344
Venereal Warts	...	...	...	...	...	...	4	2	8	...	9	...	6	...	5	...	3	...	1	...	2	...	...	...	38	2	40
Gonorrhoeal Ophthalmia	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Venereal Granuloma.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	15	34	5	34	22	25	486	189	1,158	219	1,015	149	660	88	391	67	311	39	229	40	357	56	17	6	4,666	946	5,612

TABLE 3.—Diagnostic Examinations for Venereal Diseases made in the Microbiological Laboratory during the years 1935–1937, inclusive.

Year.	Gonorrhoea (Smears and Urine).	Gonorrhoea (Complement Deviation Test).	Syphilis (Wassermann Reaction).	Syphilis (Kahn's Test).	Syphilis (Smears Spirochaetes).
1935	13,726	3,511	16,017	15,301	97
1936	17,288	3,822	18,687	18,101	88
1937	19,798	4,218	18,673	18,086	99

TABLE 4—Showing Annual Attendance Returns at Public Clinics for Treatment of Venereal Diseases, 1935-1937 inclusive.

Year.	Attendances.			New Cases.					
				Gonorrhoea.			Syphilis.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Royal Prince Alfred Hospital.									
1935	22,818	5,833	28,651	251	59	310	31	36	67
1936	17,771	5,036	22,807	209	52	261	20	20	40
1937	19,797	5,301	25,098	274	55	329	37	20	57
Sydney Hospital.									
1935	11,022	5,831	16,853	85	8	93	66	57	123
1936	10,379	5,181	15,560	164	5	169	50	39	89
1937	8,499	4,680	13,179	198	7	205	48	26	74
Royal Alexandra Hospital for Children.									
1935	624	1,050	1,674	...	7	7	14	12	26
1936	1,654	1,071	2,725	...	16	16	8	9	17
1937	371	1,286	1,657	...	23	23	4	8	12
Royal South Sydney Hospital.									
1935	1,563	741	2,304	37	1	38	10	1	11
1936	2,628	837	3,465	29	3	32	10	5	15
1937	4,679	592	5,271	26	3	29	9	4	13
Royal North Shore Hospital.									
1935	3,365	1,416	4,781	56	2	58	7	7	14
1936	2.340	1,267	3,607	63	15	78	4	14	18
1937	2,228	1,223	3,451	64	14	78	11	6	17
Rachel Forster Hospital for Women and Children.									
1935	352	13,527	13,879	...	145	145	6	129	135
1936	...	14,348	14,348	...	240	240	...	102	102
1937	...	14,844	14,844	...	257	257	...	110	110
Balmain District Hospital.									
1935	816	776	1,592	...	...	...	7	11	18
1936	808	633	1,441	...	...	...	4	5	9
1937	476	506	982	...	...	...	5	9	14
Parramatta District Hospital.									
1935	1,158	296	1,454	19	7	26	10	3	13
1936	1,454	448	1.902	24	11	35	9	5	14
1937	1,740	479	2,219	40	8	48	5	2	7
St. George District Hospital, Kogarah.									
1935	403	406	809	...	...	...	5	3	8
1936	317	441	758	...	...	...	6	5	11
1937	322	324	646	...	...	...	1	2	3
Newcastle District Hospital.									
1935	11,441	3,188	14,629	148	34	182	23	30	53
1936	16,791	2,713	19.504	154	37	191	25	14	39
1937	16,152	2,130	18.282	128	25	153	22	13	35
Health Department Clinic.									
1935	105,207	...	105,207	1,248	...	1,248	266	...	266
1936	130,271	...	130.271	1.654	...	1.654	276	...	276
1937	144.264	...	144,264	2,066	...	2,066	253	...	253

SECTION I.—D.

TUBERCULOSIS DIVISION.

ANNUAL REPORT OF THE DIRECTOR FOR THE YEAR ENDED 31ST DECEMBER, 1937.

Staff.

Director: **Dr. H. G. Wallace**, M.B., B.S., D.P.H. (Melb.).
Medical Officer: **Dr. J. Hughes**, M.B., Ch.M. (Syd.).
1 Clerk; 4 nurses.

The increase in the activities of the Tuberculosis Division, to which reference was made in the Annual Report for 1936, has been maintained during 1937. Some temporary dislocation of routine followed the resignation of Miss Haggard from the staff of visiting nurses at the end of 1936. She was replaced by the transfer of Miss Moore from the staff of the Division of Maternal and Baby Welfare, in May. During the interval, the depleted staff of visiting nurses maintained the routine visiting of patients and contacts and necessary attendances at the Albion Street and Royal Prince Alfred Hospital clinics effectively, although with some difficulty.

Towards the end of the year steps were taken to augment the staff of visiting nurses, in anticipation of the establishment of additional clinics in the metropolitan area. This should enable a much closer supervision of the patients and contacts in their homes to be exercised in the future.

Dr. A. J. Geoffroy was temporarily attached to the staff of the Division during the year in order to assist in the investigation of the after-histories of patients discharged from various sanatoria. A report by Drs. Hughes and Geoffroy is appended hereto. Of 719 patients admitted during 1932 to various institutions, 374 or 52 per cent. were found to have died of tuberculosis by 1937 and of the 719 patients admitted in 1932, 305 sought readmission to sanatoria within 5 years. The percentage of deaths among patients admitted in 1932 is thus somewhat higher than that among those admitted in 1931, details of whom were recorded in the Annual Report for 1936.

It is evident that during the years under review far too high a proportion of cases were notified in an advanced stage of the disease, and that efforts should be directed to diagnosis in the early stages when the condition is more easily curable. Extension of dispensary facilities, and a more general use of radiology in the diagnosis of suspected cases would, no doubt, conduce towards this end. Moreover, it appears that improved facilities for the after-care of patients discharged from sanatoria are required. Many of them, deprived of their capacity for earning, attempt to eke out an existence on an Invalid Pension of one pound per week, supplemented by such charitable assistance as may be obtained from relatives and from voluntary bodies. They are ill-housed, poorly clothed and often badly fed, and it is not surprising that many of them seek re-admission to institutions, particularly during the winter months. The condition of those with dependent families, although alleviated to some extent by State aid in respect of young children, leaves much to be desired.

It has been suggested that aid to these persons, being a matter of national importance, should receive adequate recognition by the Federal Government. Between the ages of 15 and 45 years, Tuberculosis kills more people in Australia than any other disease. It is the great producer of widows and orphans. It deprives the State of breadwinners at the period of their maximum productive capacity. It deprives the State of mothers at child-bearing ages and so helps to reduce the already falling birth-rate. Its economic consequences can be reckoned in millions of pounds annually. In short, it is perhaps the major health problem of the community, and as such merits the most earnest consideration of the legislature, both Federal and State, in an endeavour to devise an adequate remedy.

In England, a vast machinery for the establishment of dispensaries and the appointment of tuberculosis officers by Counties and County Boroughs, together with organized after-care committees, exists for attacking the problem. Here in Australia, where less assistance from Local Government bodies is available, the matter would appear to be one for centralized governmental agencies in the first instance.

During the year the public hospitals and voluntary agencies co-operating with the Division maintained harmonious association with it. The institutions were visited by the departmental medical staff with a view to promoting mutual assistance. Special mention might be made of the work of the New South Wales Branch of the Red Cross Society in arranging for the radiological examination of suspects in country centres in co-operation with the public hospitals. The X-ray plant at the Society's "Bodington" Sanatorium is a very useful means of maintaining supervision of the condition and progress of patients, and arrangements for making it available for patients at the Queen Victoria Home nearby have been made.

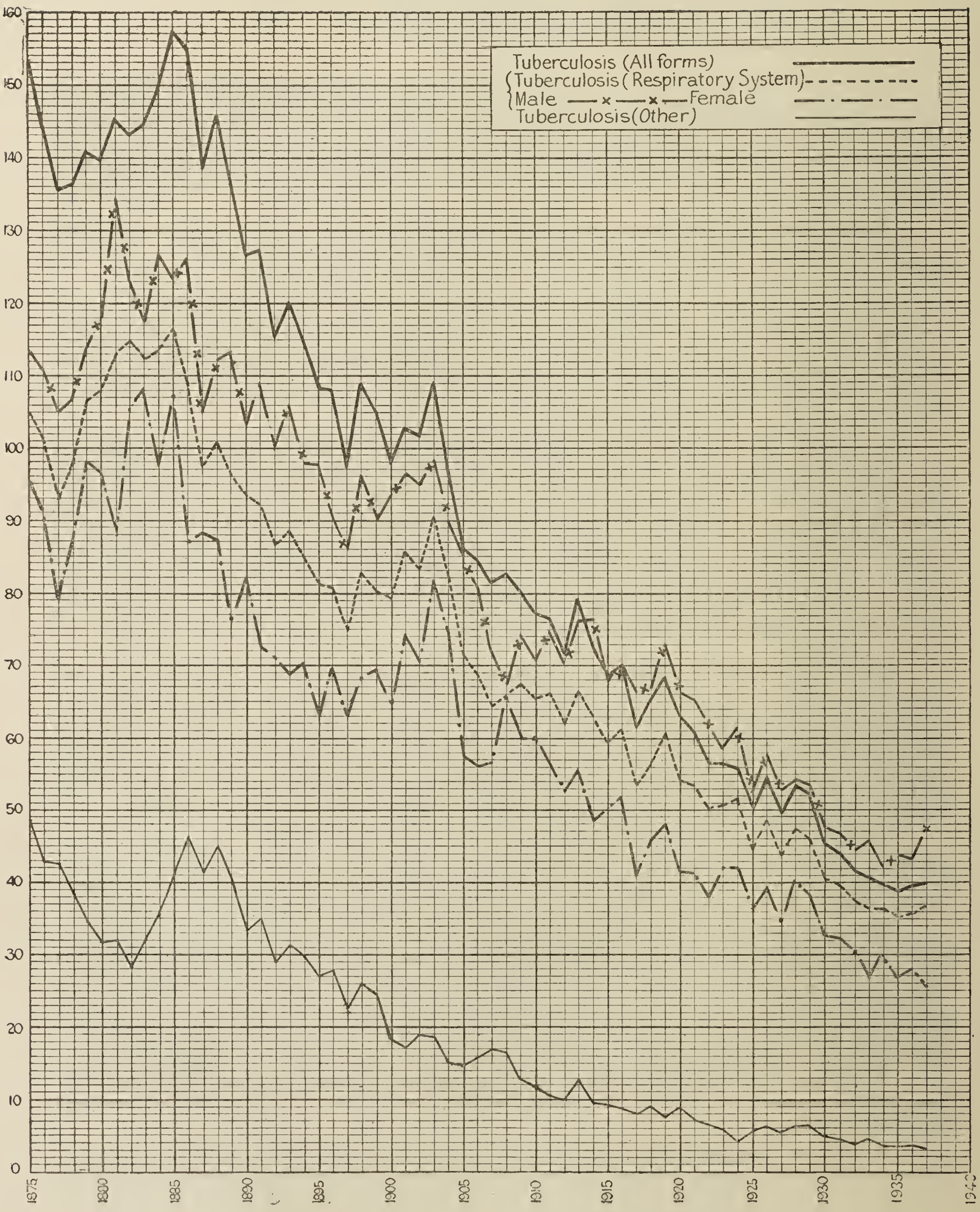
No meetings of the Board of Control of the Campaign against Tuberculosis were held during 1937. The proposed amendments of the Public Health Act have been further revised, but have not yet come before Parliament.

Notification.—Notifications of cases of pulmonary tuberculosis during 1937 amounted to 1,771, an increase of 399 cases compared with the total for 1936. The increase occurred in all divisions of the State. In the Metropolitan area of Sydney, there was an increase of 255 cases; in the Hunter River District an increase of 3 cases; in the Broken Hill District an increase of 4 cases, and in the rest of the State an increase of 137 cases compared with the preceding year.

This increase of notifications does not necessarily indicate a real increase in the incidence of the disease, but is perhaps attributable to the fact that cases are becoming recognised at an earlier stage, owing to the more extensive use of the diagnostic facilities provided at Anti-Tuberculosis Clinics and elsewhere. The increase in male cases notified amounted to 259 and in female cases to 140, and occurred in all age-groups except the group 5-14 years. Death from tuberculosis of all forms during 1937 amounted to 1,078,

TUBERCULOSIS.

Annual Death Rate per 100,000 of the Population in New South Wales, 1875-1937.



an increase of 27 on the total for 1936. There was an increase of 36 in deaths from tuberculosis of the respiratory system, and a decrease of 9 in deaths from tuberculosis of other organs, compared with the previous year. The increase in deaths was confined to males; there was a slight decrease in the deaths of females.

Details of notifications and deaths from pulmonary tuberculosis, together with other relevant statistical data, are given in the tables set out hereunder.

Home Visiting of Patients.—The importance of this aspect of departmental activities lies in the results the visiting nurses and medical officers are able to achieve, not only in the care of the patients themselves, but in persuading the contacts to present themselves for regular periodical examination, including an X-ray of the chest.

Where the medical attendant on notifying the case expresses a desire that the patient should not be visited by a departmental officer, he is under an obligation to instruct the patient in preventing the spread of the disease. Whether he also takes steps to cause the contacts to be examined is not known. It is suggested that as twenty per cent. of the metropolitan cases and over thirty per cent. of cases from the Hunter River District are " not to be visited," it might be possible to remind the notifying medical attendant of this aspect of prevention by means of a suitable pamphlet setting out the desirability of periodical examination of contacts, in order to detect the early, symptomless case in a curable stage.

Need for Additional Anti-Tuberculosis Clinics.—No additional clinics were established during 1937; but a building for the purpose is being erected at the Canterbury District Hospital, and it should be in active operation early in the new year.

It is understood that the Hospitals Commission of New South Wales is arranging for provision to be made, in the building programmes of other metropolitan hospitals, for additional clinic accommodation. It is impossible at present, however, to indicate when these proposed buildings will be completed. At least three additional clinics in the metropolitan area of Sydney are necessary.

Publicity—It is becoming more evident each year that increase in the facilities for public education in health matters is necessary. The response to such health publicity as has been given by this department in the past shows that the public is increasingly ready to respond to the right kind of approach.

During the year a number of lectures and broadcasts were given by the Medical Officer, Dr. Hughes, and a smaller number by the Director. A new leaflet stressing important aspects of the prevention and treatment of tuberculosis is approaching completion. The purchase of a portable sound-film projector, which would enable interesting and instructive health films to be exhibited, would be of inestimable value for public educational purposes. It is hoped that such an apparatus may be made available during the coming year. Its use would be applicable to audiences of all kinds, and where necessary the health message conveyed by the films could be supplemented by a lecturer emphasizing their more important features.

Randwick Auxiliary Hospital.—The urgent need for further accommodation for advanced cases at this institution has been brought under notice previously. A comprehensive plan for the renovation of existing buildings and the opening of additional wards has been prepared, and the work will be carried out at an early date. By providing further accommodation at this institution the strain on the accommodation at the Waterfall Sanatorium, and the reduction of existing waiting-lists of patients requiring admission, will be considerably lessened.

Investigational Work.—Dr. Hughes, assisted by Dr. Geoffroy, continued the investigation of the after-histories of patients discharged from sanatoria. Assistance is being given in investigations, under the auspices of the National Health and Medical Research Council, of the incidence of tuberculous infections in the community, and of the differing incidence in females at various ages and engaged in various occupations.

Urgent Requirements.—(1) Provision of suitable accommodation for chronic cases of tuberculosis in males of middle age, which was referred to in the Annual Report for 1936, is still an urgent necessity.

(2) Additional accommodation for the nursing staff at the Randwick Auxiliary Hospital, and arrangements for a pathologist to visit the institution at regular times is extremely desirable.

(3) The appointment of a pathologist at the Waterfall Sanatorium, who would enable a closer co-ordination between the clinical and pathological and radiological findings to be maintained, is regarded as a very necessary requirement.

(4) Special provision for the treatment of selected cases of pulmonary tuberculosis by modern surgical methods, preferably in connection with a metropolitan hospital, would greatly facilitate the treatment of such cases.

(5) Facilities for a more extensive public educational campaign by means of films, lectures and broadcasts, drawing attention to the need for more intensive public co-operation in combating the tremendous ravages of tuberculosis, is perhaps at the present time, the most urgent requirement of all. Fear of tuberculosis is widespread in the community, but a rational outlook on the question of its control is by no means so widespread, and it is felt that much could be done to enlist more public co-operation in the campaign against tuberculosis.

Co-ordination of Anti-Tuberculosis Activities.—The thanks of the Division are due to all those agencies, both voluntary and governmental, which have extended their co-operation to the Division of Tuberculosis throughout the year, and which have helped by their active assistance to maintain progress, year by year, in the Campaign against Tuberculosis.

H. G. WALLACE,
Director.

Notifications.

TABLE 1.—Showing the age and sex incidence of the cases of Pulmonary Tuberculosis notified during the year 1937.

Age Period.	Metropolitan Combined Sanitary District. Mean Population.			Hunter River Combined Sanitary District. Mean Population.			Broken Hill Combined Sanitary District. Mean Population.			Remainder of State. Population.			Whole State. Population.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Under 1 year	3	...	3	...	...	...	...	...	...	1	...	1	4	...	4
1– 4	3	2	5	...	...	...	...	...	...	1	1	2	4	3	7
5–14	2	3	5	...	2	2	...	...	...	...	5	5	2	10	12
15–24	72	157	229	3	6	9	...	1	1	32	38	70	107	202	309
25–34	140	146	286	10	11	21	2	1	3	46	79	125	198	237	435
35–44	191	94	285	10	8	18	3	1	4	44	20	64	248	123	371
45–54	177	55	232	12	4	16	3	...	3	49	11	60	241	70	311
55–64	142	23	165	15	2	17	1	...	1	30	8	38	188	33	221
65 and over	48	19	67	5	2	7	1	...	1	20	6	26	74	27	101
All ages	778	499	1,277	55	35	90	10	3	13	223	168	391	1,066	705	1,771

TABLE 2.—Showing monthly incidence of notified cases of Pulmonary Tuberculosis and also incidence of cases "To be Visited" and cases "Not to be Visited," year 1937.

Month.	Metropolitan Combined Sanitary District.		Hunter River Combined Sanitary District.		Broken Hill Combined Sanitary District.		Remainder of State.		Whole State.	
	To be Visited.	Not to be Visited.	To be Visited.	Not to be Visited.	To be Visited.	Not to be Visited.	To be Visited.	Not to be Visited.	To be Visited.	Not to be Visited.
January	65	29	2	...	...	...	16	13	83	42
February	75	21	10	5	1	...	29	23	115	49
March	85	23	4	1	...	...	20	23	109	47
April	91	36	8	6	3	...	19	25	121	66
May	95	25	8	...	1	...	22	15	126	40
June	85	20	1	1	...	...	22	17	108	38
July	112	21	...	3	1	...	17	15	130	39
August	80	13	10	2	1	...	6	4	97	19
September	72	13	2	...	...	...	10	9	84	22
October	85	15	...	...	1	...	21	8	107	23
November	88	20	16	3	1	...	12	18	117	42
December	97	11	5	3	4	...	18	9	124	23
Totals	1,030	247	66	24	13	...	212	179	1,321	450

Deaths.

TABLE 3.—Showing the number of deaths from all forms of Tuberculosis in (*a*) Metropolitan, (*b*) whole State, during the year ended 31st December, 1937.

	Metropolis.			Whole State.		
	Males.	Females.	Total.	Males.	Females.	Total.
Respiratory system	382	200	582	647	344	991
Meninges and nervous system	13	11	24	18	12	30
Other	18	15	33	35	22	57
Total	413	226	639	700	378	1,078

TABLE 4.—Showing the age and sex of the persons whose deaths from Pulmonary Tuberculosis were notified during the year ended 31st December, 1937.

Age Period.	Metropolitan Combined Sanitary District. Mean Population,			Hunter River Combined Sanitary District. Mean Population,			Broken Hill Combined Sanitary District. Mean Population,			Remainder of State. Population,			Whole State. Population,		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Under 1 year	2	...	2	...	...	...	...	...	...	2	2	4	4	2	6
1– 4	...	...	...	...	...	...	...	...	...	1	...	1	1	...	1
5–14	1	2	2	...	...	...	...	...	...	...	1	1	1	2	3
15–24	25	40	65	...	...	...	...	...	...	11	24	35	36	64	100
25–34	53	58	111	6	7	13	...	3	2	25	37	62	84	105	189
35–44	78	49	127	7	5	12	3	...	3	26	14	40	114	68	182
45–54	98	27	125	16	1	17	2	...	2	42	9	51	158	37	195
55–64	94	19	113	12	2	14	7	...	7	36	10	46	149	31	180
65 and over	66	22	88	10	2	12	2	...	2	22	11	33	100	35	135
All ages	417	216	633	51	17	68	14	3	17	165	108	273	647	344	991

TABLE 5.—Showing Institutional Accommodation available for patients suffering from Pulmonary Tuberculosis.

Sanatoria and Hospitals.	Type of Cases Received.	Number of Beds.		
		Male.	Female	Total.
1. Waterfall Sanatorium (under Government control)	Intermediate	292	136	428
2. Randwick Auxiliary Hospital (under Government control)	Late	60	30	90
3. Queen Victoria Homes (subsidised)—				
Thirlmere	Early female	...	54	54
Wentworth Falls	Early male	54	...	54
4. Red Cross Society (subsidised)—				
"Bodington" at Wentworth Falls	Early male and female ...	89	9	98
"Malahide" at Pennant Hills	Late male and female ...	15	6	21
"Southern" at Exeter	Male quiescent	20	...	20
(The above institutions work in full co-operation with the Tuberculosis Division.)				
R.T. Hall Sanatorium		4	4	8
Private Hospitals (approximately)		...	...	40
Repatriation Department—				
Prince of Wales Hospital		65	...	65
Lady Davidson Home		77	...	77
				955

TABLE 6.—Showing number of patients receiving Institutional Treatment for tewlve months ended 30th June, 1937.

	Queen Victoria Sanatorium, Wentworth Falls.	Queen Victoria Sanatorium, Thirlmere.	Red Cross Sanatorium Wentworth Falls.	Waterfall Sanatorium.	Red Cross Hospital, Pennant Hills.	Red Cross Convalescent Home, Exeter.
1. Number of patients in Institution on 30th June, 1937	51	47	70	386	21	10
2. Number of patients admitted during above period	68	84	91	495	22	43
3. Number of patients discharged (including deaths) for above period	76	83	87	493	20	37
4. Number of patients remaining in Institution on 30th June, 1937	43	48	74	388	23	16
5. Average daily number of beds occupied	48·8	50·1	59·1	385	21·4	14·5

Average Residence in Sanatoria and Hospitals.

TABLE 7.—Showing the average residence in days and condition on discharge from Sanatoria and Hospitals, of patients under treatment for period of twelve months ended 30th June, 1937.

Condition of Discharge.	Queen Victoria Sanatorium, Wentworth Falls.		Queen Victoria Sanatorium, Thirlmere.		Red Cross Sanatorium, Wentworth Falls.		Waterfall Sanatorium		Red Cross Hospital, Pennant Hills.		Red Cross Convalescent Home, Exeter	
	No. of Patients.	Average Residence in days.	No. of Patients.	Average Residence in days.	No. of Patients.	Average Residence in days.	No. of Patients.	Average Residence in days.	No. of Patients.	Average Residemce in days.	No. of Patients.	Average Residence in days.
1. Arrested (1)	...	...	...	...	...	...	1	2,406	...	...	5	162·6
2. Quiescent (Q)	30	302	49	256·6	22	554	16	378	1	217	3	161·3
3. Much improved (M.I.)	23	347	6	256·5	24	246	124	297	1	288	...	...
4. Improved (I)	16	187	11	185·5	18	187	220	145	...	...	36	84·1
5. Stationary (S)	2	51	4	122·2	16	97	18	79	2	56	8	106·0
6. Worse (W)	5	278	13	172·4	5	264	7	774	3	82	1	39·0
7. Dead (D)	...	...	...	...	2	127	107	406	13	105	...	...

TABLE 8.—Showing condition of patients on admission to, and discharge from, Institutions for the treatment of Pulmonary Tuberculosis for the twelve months ended 30th June, 1937.

Condition on Admission.	Queen Victoria Sanatorium Wentworth Falls.								Queen Victoria Sanatorium, Thirlmere.								Red Cross Sanatorium, Wentworth Falls.								Waterfall Sanatorium.								Red Cross Hospital Pennant Hills.							
	Condition on Discharge.								Condition on Discharge.								Condition on Discharge.								Condition on Discharge.								Condition on Discharge.							
	A.	Q.	M.I.	I.	S.	W.	D.	Total	A.	Q.	M.I.	I.	S.	W.	D.	Total	A.	Q.	M.I.	I.	S.	W.	D.	Total	A.	Q.	M.I.	I.	S.	W.	D.	Total	A.	Q.	M.I.	I.	S.	W.	D.	Total
L1T1	...	3	...	1	...	..	...	4	...	21	1	...	...	1	...	23	...	11	6	2	2	...	1	22	1	2	...	1	...	...	...	4	...	...	...	...	...	...	...	...
L2T1	...	21	17	6	1	4	...	49	...	16	1	5	1	2	...	25	...	9	8	8	4	...	...	29	..	6	18	13	1	...	2	40	...	...	...	...	...	...	...	...
L1T2	...	...	...	...	...	...	...	...	...	3	...	...	1	...	...	4	...	...	...	...	...	...	...	...	..	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...
L2T2	...	6	6	8	1	2	...	23	...	2	...	2	...	...	...	4	...	2	1	1	3	...	...	5	1	1	5	3	1	...	...	11	...	...	1	...	...	...	...	1
L3T1	...	...	...	...	...	...	...	...	...	5	3	3	...	3	...	14	...	...	8	6	5	3	..	24	..	5	52	68	9	3	22	189	...	...	...	...	...	...	...	...
L3T2	...	...	...	...	...	...	...	...	...	2	1	1	2	7	...	13	...	...	1	1	2	1	...	5	..	2	46	96	7	4	56	211	...	...	...	...	3	...	...	3
L1T3	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	..	...	...	...		...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
L2T3	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	..	...	...	...	..	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
L3T3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	1	1	2	...	...	3	8	...	...	27	38	...	..	...	...	...	3	13	16
	...	30	23	15	2	6	...	76	...	49	6	11	4	13	...	83	..	2	24	18	16	5	2	87	2	16	124	220	18	7	107	494	...	...	1	...	3	3	13	20

Clinics.

TABLE 9.—Comparative Statement of work carried out at the various Anti-Tuberculosis Dispensaries during a perior of twelve months ended 30th June, 1937.

	Royal Prince Alfred Hospital.	Royal North Shore Hospital	Anti-Tuberculosis Association of N.S.W.	Newcastle Throat and Chest Dispensary.
1. Total number of attendances (including contacts)	9,818	2,260	9,785	3,023
2. Number of new patients (excluding contacts) examined during the year :—				
(*a*) Definitely tuberculous	290	178	129	38
(*b*) Non-tuberculous	137	730	623	103
(*c*) Diagnosis not completed	29	......	8	40
3. Number of contacts examined during the year :—				
(*a*) Definitely tuberculous	288	178	52	5
(*b*) Non-tuberculous	556	215	514	112
(*c*) Diagnosis not completed	30	......	38	70
4. Total number of nurses visits during year	2,345	4,739	2,616	291
5. Number of hones visited	1,646	608	904	96
6. Number of sputum examinations	456	183	835	100
7. Number of X-ray examinations :—				
(*a*) New cases	427	178	511	181
(*b*) Cases previously X-rayed at the Clinic	1,082	336	96	340
(*c*) Contacts	874	215	No record.	177
8. Number of cases on Clinic register at 30th June, 1937	2,914	1,725	467	597
9. Number of cases written off during the year as :—				
(*a*) Recovered	No record.	No record.	No record.	4
(*b*) Died	126	47	47	31
(*c*) Transferred elsewhere	830	215	No record.	8

Nursing Staff.

TABLE 10.—Comparative Statement of work performed by visiting nurses in the metropolitan area.

Year.	Total Visits by Nurses.			Total Visits by Departmental Nurses.		No. of Homes visited by all Nurses.		No. of Visits paid by all Nurses.		Average Number of Visits per Patient per Year.		
	Departmental Nurses.	Non-Departmental Nurses.	Total.	Dispensary Cases.	Non-Dispensary Cases.	Dispensary Cases.	Non-Dispensary Cases.	Dispensary Cases.	Non-Dispensary Cases.	Dispensary Cases.	Non-Dispensary Cases.	All Cases.
1932 ...	5,117	5,118	10,835	2,990	2,127	2,497	835	8,647	2,188	3·5	2·4	3·2
1933 ...	7,704	4,633	12,337	4,185	3,519	3,155	1,248	8,818	3,519	2·7	2·8	2·8
1934 ...	6,155	6,797	12,952	3,463	2,692	3,445	1,443	9,789	3,163	2·8	1·8	2·6
1935 ...	5,780	6,316	12,096	2,586	3,194	3,121	1,416	8,902	3,194	2·5	2·2	2·1
1936–37*	5,952	7,947	13,899	3,526	2,356	3,254	1,227	10,610	3,289	3·2	1·8	2·8

* For year ended 30th June, 1937.

APPENDIX.

Investigation into the After-histories of 719 Patients Admitted to Various Sanatoria in New South Wales in 1932.

(By Dr. John Hughes and Dr. A. J. Geoffroy, Medical Officers, Tuberculosis Division.)

The 719 patients who have been followed up were admitted to Waterfall Sanatorium, the Queen Victoria Homes (Thirlmere, female patients, and Wentworth Falls, male patients); Bodington Red Cross Home; and the Exeter Red Cross Farm (male patients).

Waterfall Sanatorium admits metropolitan cases and cases from the country certified by the country practitioner as being "able to travel without escort, afebrile for at least a fortnight prior to date of the certificate and having a reasonable prospect of arrest of the disease"; under these circumstances the patients range from early stage to late stage of the disease. The Queen Victoria Home at Thirlmere endeavours to admit only early stage cases among females; the Queen Victoria Home at Wentworth Falls endeavours to admit only early stage cases among males. Bodington Red Cross Home admits soldiers and civilians. and during the year 1932 admitted 12 female patients—early and middle stage cases of the diseases are admitted. Exeter Red Cross Farm admits only male patients who are in an arrested stage of the disease, and have been transferred to the Farm from Bodington, Wentworth Falls, or Waterfall on the recommendation of the medical officers of those institutions.

All of the cases under review were admitted in the order shown in the various tables of the respective Sanatoria.

"Malahide" is a Red Cross Sanatorium for third stage or bedridden cases.

Picton Lakes is a Village Settlement for healed cases, comprising cottages for married couples and a hostel for single men.

"Randwick" represents the Randwick Auxiliary Hospital, which admits only third stage or bedridden cases.

"R" in the column denoting period of stay in sanatorium (male and female) represents that the patient is a re-admission to Sanatorium, having at some time previously been in one of the Sanatoria in the State. It is customary for a patient who is retrogressing at Bodington or either of the Queen Victoria Homes to be transferred to Waterfall Sanatorium.

Of the total of 719 patients admitted during 1932, 374 were found to have died of tuberculosis by 1937, *i.e.*, within a period of five years.

Sanatoria.	Number of persons admitted in 1932.	Number of deaths recorded among such admissions 1932 to December, 1937.	Died within 5 years, 374 (*i.e.*, 52 per cent.).		Of the 719 admissions in 1932, 305 sought re-admissions to Sanatoria within 5 years.	
			Year of Death.	No. Died.	Sanatoria.	No. who Sought Re-admission.
Waterfall—						
Males	298	178	1932	71	Waterfall	143 (males)
Females	156	91	1933	127	,,	52 (females)
Queen Victoria Homes—			1934	66	Queen Victoria Homes—	
Wentworth Falls (males)	58	18	1935	47	Wentworth Falls	25 (males)
Thirlmere (females)	80	29	1936	38	Thirlmere	19 (females)
			1937	25		
Bodington Red Cross Home	100	51	...	...	Bodington	48 (males)
Exeter Red Cross Farm	27	7	...	...	Exeter	18 (males)
Total	719	374	...	374		305

Admission to Waterfall Sanatorium during 1932—Males.

Patient's No.	Age.	Period in Waterfall.	Further Admission to Sanatorium.	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
1	31	8 days	......	....	......	No records	......
2	37	9 months ...	Randwick ..	Transferred ...	Positive...	Extensive bilateral	2–7–33
3	27	16 months ...	......	....	Positive...	Extensive left c cavitation, slight right	18–5–33
4	39	3 months ...	......	....	Positive...	Marked exudative left, early right	......
5	51	3 months ...	Randwick ..	Transferred ...	......	Quiescent pulmonary lesions	12–12–32
6	R. 41	15 months ...	......	....	Positive...	Advanced right c numerous large cavities.	......
7	R. 55	14 months ...	Randwick ..	Transferred ...	Positive...	Left apical c cavitation	29–3–33
8	42	5 months ...	......	....	Positive...	Extensive whole right	23–6–34
9	R. 44	5 months ...	Randwick ..	Transferred ...	......	Extensive cavitation right, foci. left hilum and base.	18–9–32
10	26	9 months ...	Randwick ..	Transferred ...	Positive...	Extensive bilateral c cavitation	8–12–32
11	54	3 months ...	......	....	Positive...	....	......
12	R. 21	12 months ...	Exeter	Transferred ...	Positive...	....	25–3–32
13	23	3½ years	Randwick ..	Transferred ...	Positive...	Fairly extensive c bilateral cavitation..	16–10–35
14	R. 29	3 months ...	Exeter	Transferred ...	Positive...	Bilateral active apical	......
15	40	4½ years	......	....	Negative	Bilateral	19–7–36
16	44	14 months ...	......	....	Positive...	Very extensive left c large cavity	21–3–33
17	50	11 months ...	......	....	Positive...	Active whole left and upper ½ right ...	27–5–33
18	R. 18	7 months ...	......	....	Positive...	Cavity right lower lobe	12–1–36
19	62	5 months ...	......	....	Positive...	....	5–11–32
20	61	2 months ...	Waterfall ...	12 months ...	Positive...	....	25–9–34
21	46	2 months ...	......	....	Positive...	....	29–5–32
22	R. 47	20 months ...	......	....	......	Extensive bilateral c marked cavitation	......
23	56	9 months ...	Randwick ..	2 years	Positive...	....	6–1–35
24	61	1 month	Waterfall ...	5 months ...	Positive...	Active upper ½ both, cavitation left ...	7–9–33
25	54	4 months ...	......	....	Positive...	Chronic bilateral c cavitation left apex..	17–6–32
26	44	1 month	Waterfall ...	8 months ...	Positive...	Bilateral fibrosis	15–9–34
27	22	4 months ...	Waterfall ...	2½ years	Positive...	Very extensive bilateral, almost miliary	11–9–36
28	15	4 days	......	....	Positive...	Active	15–2–37
29	R. 52	3 months ...	Waterfall ...	4 months ...	Positive...	Old fibroid whole left	1–11–35
30	24	8 months ...	Randwick ..	Transferred ...	Positive...	....	17–7–33
31	53	16 months ...	Randwick ..	4 months ...	Positive...	Bilateral apical	28–10–33
32	R. 56	12 months ...	......	....	Positive...	Cavitation mid ⅓ right, slight mid ⅓ left	22–3–33
33	51	15 months ...	Waterfall ...	3 months ...	Positive...	Extensive active bilateral	......
34	42	8 months ...	......	....	Positive...	Active both apices	......
35	R. 47	4 months ...	Waterfall ...	3 months ...	Positive...	Cavitation left upper lobe	1–4–34
36	67	3 months ...	......	....	Positive...	....	25–5–33
37	42	6 months ...	......	....	Positive...	Well established right c large cavity ...	28–11–32
38	55	3 months ...	Waterfall ...	5 months ...	Positive...	Very extensive bilateral c cavitation right upper lobe.	......
39	51	11 months ...	Waterfall ...	9 months ...	Positive...	....	......
40	37	6 months ...	......	....	Positive...	Diffuse active right, left appears collapsed.	......
41	43	8 months ...	Waterfall ...	4 months ...	Positive...	Extensive c cavitation left lung	1–1–37
42	61	2 months ...	Waterfall ...	1 month	Positive...	....	13–1–36
43	55	10 months ...	......	....	Negative	Probable both apices	......
44	37	4 months ...	......	....	Positive...	Consolidation left upper lobe	23–7–33
45	49	3 weeks ...	Waterfall ...	16 months ...	Negative	Bilateral fibro caseating T.B.	......
46	R. 37	1 month	......	....	Positive...	Advanced bilateral c numerous cavities	14–4–33
47	28	7 months ...	......	....	......	....	7–10–32
48	52	7 months ...	Randwick ..	Transferred ...	......	Definite apical	......
49	18	2 years	Bodington ..	4 days	......	Extensive left upper lobe, subacute right apex.	12–5–35
50	40	10 months ...	......	....	......	....	......
51	R. 38	5 years	......	....	......	....	......
52	21	1 month	Waterfall ...	3 years	......	....	6–7–35
53	R. 51	2 months ...	Waterfall ...	1 year	Positive...	Very extensive left lung and right upper lobe.	22–8–36
54	41	4½ years	......	....	......	....	23–10–36
55	57	5 months ...	Waterfall ...	2 months ...	Positive...	....	......
56	46	6 months ...	......	....	Positive...	....	5–9–33
57	48	3 months ...	......	....	Positive...	Apical, partially healed	......
58	33	3 months ...	Exeter	Transferred ...	Negative	Active right upper lobe	......
59	36	14 months ...	......	....	Positive...	Right apex and lower lobe. ? left apex	......
60	32	3 months ...	Waterfall ...	9 months ...	Positive...	....	8–4–36
61	52	6 months ...	Waterfall ...	5 months ...	Positive...	Upper lobe left, apex right	......
62	56	2 months ...	......	....	Positive...	Bilateral c cavitation	30–8–37
63	40	3 years	......	....	Positive...	Bilateral mottling	29–7–35
64	R. 51	1 year	Waterfall ...	6 months ...	Positive...	Mottling both, cavitation right upper lobe.	......
65	49	6 months ...	......	....	Positive...	Very advanced upper ½ both c cavitation.	......
66	60	2 years	Exeter	Transferred ...	......	....	......
67	32	6 months ...	......	....	Positive...	....	3–9–32
68	R. 45	10 months ...	......	....	Positive...	Active towards both bases, old left apex	1–8–34
69	29	7 months ...	Waterfall ...	1 year	Positive...	....	......
70	R. 59	3 weeks	......	....	Positive...	Extensive chronic bilateral c cavitation	17–7–34
71	59	4 months ...	......	....	Positive...	Extensive bilateral c small cavity	30–9–33
72	22	9 months ...	Exeter	Transferred ...	......	Active bilateral apical	25–8–33
73	54	4 months ...	Randwick ..	1 month	Positive...	Bilateral fibrous, active right apex ...	......
74	56	2 weeks	......	....	Positive...	....	19–4–32
75	55	9 months ...	......	....	Positive...	Early left apex	16–1–33
76	42	1 month	......	....	Positive...	....	......
77	26	5 months ...	Randwick ..	10 months ...	Positive...	Bilateral apical c cavitation	2–8–33
78	R. 57	4½ years	......	....	Positive...	....	3–10–36
79	36	6 months ...	Randwick	10 months ...	Positive...	Bilateral mottling c cavitation	30–9–33

Admission to Waterfall Sanatorium during 1932—Males—*continued.*

Patient's No.	Age.	Period in Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
80	29	5 months ...	......	....	......	Bilateral	17-9-32
81	29	1 month	Waterfall ...	1 month	Positive...	Bilateral c cavitation	23-10-34
82	21	12 months ...	Waterfall ...	2 years	Positive...	......	6-2-35
83	57	2 months ...	Waterfall ...	3 days	Positive...	Advanced bilateral c cavitation	11-4-34
84	46	6 months ...	Randwick ..	Transferred ...	Positive...	......	30-11-32
85	44	1 month	......	....	Positive...	Bilateral c partial pneumothorax right apex.	25-5-32
86	30	3 months ...	......	....	Positive...	Advanced bilateral c cavitation	13-7-32
87	R. 39	9 months ...	......	....	Positive...	......	29-1-33
88	R. 50	8 months ...	......	....	......	......	25-12-32
89	21	2 months ...	Bodington ..	2 months ...	Positive...	Extensive bilateral	7-11-34
90	R. 36	15 months ...	Randwick ..	Transferred ...	Positive...	......	8-7-33
91	R. 59	4 years	......	....	......	......	......
92	24	9 months ...	......	....	......	Advanced bilateral c cavity right apex	12-9-34
93	56	8 months ...	......	....	Positive...	......	28-12-32
94	39	1 month	......	....	......	Chronic bilateral apical	......
95	51	2 months ...	......	....	Positive...	Mottling and fibrosis each apex	......
96	7	16 months ...	Waterfall ...	3 weeks	......	Right hilar	......
97	58	8 months ...	......	....	Positive...	Well marked upper half right	6-12-32
98	65	3 months ...	......	....	Positive...	Silicosis	17-7-32
99	R. 52	4 months ...	Randwick ..	2 years	......	Extensive bilateral c cavitation right apex.	29-5-34
100	59	2 years	Randwick ..	Transferred ...	Positive...	......	......
101	40	3 months ...	Waterfall ...	4 years	Positive...	Extensive bilateral	......
102	28	2 months ...	......	....	Positive...	Right apical pneumothorax, early left apex.	11-6-33
103	28	11 months ...	......	....	Positive...	Generalised bilateral c multiple small cavities.	25-3-33
104	17	3 weeks	......	....	Negative	Well marked left apex, early right	......
105	33	1 month	......	....	Positive...	......	13-6-32
106	21	4 months ...	......	....	Positive...	Mottling both apices c cavitation left...	2-1-36
107	65	16 months ...	Waterfall ...	3½ years	Positive...	Extensive bilateral c small cavity right apex.	27-8-37
108	39	9 months ...	......	....	Positive...	Extensive chronic bilateral	......
109	50	1 month	......	....	Positive...	Positive	......
110	50	3 months ...	......	....	......	Extensive bilateral mottling	9-8-32
111	37	2 months ...	Waterfall ...	3 months ...	Positive...	Mottling left apex	4-4-34
112	53	10 months ...	......	....	......	Bilateral apical, active c cavitation ...	......
113	R. 33	6 months ...	......	....	Positive...	Active middle ⅓ left c cavitation......	18-2-33
114	30	2½ years	......	....	Positive...	Extensive right c cavitation	19-10-34
115	31	13 months ...	Randwick ..	Transferred ...	......	......	28-1-34
116	31	7 months ...	......	....	Positive...	Extensive mottling left c cavitation ...	15-1-33
117	49	15 months ...	......	....	Positive...	Extensive bilateral	31-8-33
118	48	5 months ...	......	....	......	Extensive mottling upper ⅓ both	......
119	26	6 months ...	......	....	Positive...	Right lung	......
120	R. 47	6 days	......	....	Positive...	Definite opacity right apex, probable healed.	23-7-32
121	38	8 months ...	Exeter	Transferred ...	Positive...	Extensive right	1-3-36
122	R. 61	1 month	......	....	Positive...	Healed both apices	......
123	R. 46	21 months ...	Randwick	1 year	Positive...	Positive	1-3-35
124	R. 29	1 month	......	....	Positive...	Well marked mottling upper ½ both ...	......
125	29	7 months ...	Waterfall ...	4 years	Positive...	Fibroid phthisis, mainly right......	17-9-37
126	50	8 months ...	......	....	Positive...	Middle ⅓ right, irregular scars left ...	11-5-34
127	R. 28	1 month	......	....	Positive...	Advanced chronic bilateral c cavitation	......
128	37	2 months ...	......	....	......	Recent active left apex	......
129	R. 26	17 months ...	......	....	......	......	......
130	39	2 months ...	......	....	Positive...	Fine infiltration both apices	......
131	41	20 months ...	......	....	Positive...	......	12-2-34
132	48	4 months ...	......	....	Positive...	Extensive bilateral c, some fibrosis ...	25-11-32
133	21	3 months ...	......	....	Positive...	......	26-9-32
134	R. 35	1 month	Randwick ..	2½ years	Positive...	Fibrosis right upper lobe	......
135	58	2 months ...	......	....	Positive...	Positive	20-8-32
136	R. 51	13 months ...	Exeter	Transferred ...	......	......	......
137	R. 35	9 months ...	Bodington	Transferred ...	Negative	Bilateral infiltration	......
138	55	9 days	Randwick ..	Transferred ...	Positive...	Chronic fibroid right upper lobe	28-6-33
139	48	7 months ...	Exeter	Transferred ...	Positive...	Upper ⅔ both	......
140	52	6 months ...	......	....	Positive...	......	28-3-33
141	35	3 months ...	Randwick....	1 month	Positive...	Very extensive bilateral c slight cavitation.	14-1-33
142	32	13 months ...	......	....	Positive...	Early mottling	......
143	16	7 months ...	Exeter	Transferred ...	Positive...	Positive	5-10-36
144	27	3 months ...	......	....	Positive...	Positive	......
145	24	2 years	Exeter	Transferred ...	Positive...	Extensive bilateral	......
146	R. 40	1 month	......	....	Positive...	Extensive mottling both	3-11-32
147	R. 61	1 month	Waterfall ...	5 months ...	Positive...	Sub-acute left upper lobe	21-4-34
148	47	6 months ...	Randwick ..	Transferred ...	Positive...	......	23-12-32
149	41	10 months ...	......	....	Positive...	Bilateral, most marked left side	8-4-33
150	43	10 months ...	Randwick ..	16 months ...	Positive...	Extensive bilateral mottling c cavitation.	28-8-34
151	49	3 years	Exeter	2 weeks	Positive...	Bilateral of slowly progressive type ...	......
152	R. 48	10 months ...	Waterfall ...	10 months ...	Positive...	Extensive right, numerous small scars left.	......
153	R. 24	6 months ...	Exeter	Transferred ...	Positive...	Mottling right upper lobe	13-11-33
154	R. 33	3 months ...	Waterfall ...	17 months ...	Positive...	Bilateral, well marked	11-5-34
155	27	2 months ...	......	....	Positive...	Bilateral apical, ? lung abscess	2-9-32
156	35	3 months ...	......	....	Positive...	Fibroid phthisis both upper lobes	......
157	19	5 months ...	Waterfall ...	1 month	Negative	Right apical	......

Admission to Waterfall Sanatorium during 1932—Males—*continued.*

Patient's No.	Age.	Period in Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
158	56	16 months ...	Exeter	Transferred ...	Positive...	....	......
159	30	3 months ...	......	....	Positive...	Left hilar infiltration	......
160	24	2½ years	Waterfall ...	7 months ...	Negative	Fine mottling and fibrosis right upper *c* cavity.	......
161	50	7 months ...	......	....	Negative	Chronic right upper and middle lobes...	......
162	R. 60	5 months ...	Waterfall ...	2 months ...	Positive...	....	......
163	44	5 months ...	Randwick ..	2½ years	Positive...	....	......
164	R. 60	2 years	Randwick ..	Transferred ...	Negative	Extensive left upper lobe *c* slight cavitation, old scars right apex.	6–1–36
165	R. 29	8 months ...	Randwick ..	1 month	Positive...	....	30–1–34
166	48	5 months ...	......	....	......	Old, greater part left *c* cavity, right apex also infected.	......
167	61	20 months ...	......	....	Positive...	Fibroid type left *c* recent spread	1–4–37
168	23	1 month	......	....	......	Extensive bilateral *c* multiple small cavities.	16–10–32
169	45	9 months ...	Randwick ..	6 months ...	Negative	Tuberculosis *c* silicosis, cavitation right infra clavic.	26–7–34
170	54	4 months ...	......	....	Positive...	Extensive chronic *c* recent spread	17–6–33
171	27	2 months ...	......	....	Positive...	Bilateral apical	......
172	57	3 months ...	......	....	Positive...	Well marked bilateral *c* cavitation......	2–9–33
173	47	4 months ...	Randwick ..	9 months ...	Positive...	Bilateral, active on right side	28–9–34
174	52	11 months ...	......	....	Positive...	....	......
175	52	1 month	Waterfall ...	5 months ...	Positive...	Very extensive chronic bilateral *c* recent active right.	11–4–34
176	32	7 months ...	......	....	Negative	Left apex *c* large cavity	......
177	50	15 months ...	......	....	Negative	Very extensive bilateral *c* cavitation right.	9–7–35
178	51	4 months ...	......	....	Positive...	Bilateral	......
179	41	2 years	Waterfall ...	1 year	Positive...	Bilateral, fibroid right, exudative left..	......
180	18	7 months ...	......	....	Positive...	Infiltration right infra clavicular	......
181	R. 30	2 years	Randwick ..	Transferred ...	Positive...	Extensive bilateral	......
182	R. 29	2 weeks	Waterfall ...	3 months ...	Positive...	Bilateral mottling	12–10–33
183	42	3 months ...	Randwick ..	4 months ...	Positive...	Recent and active *c* cavitation right, slight left subapical.	15–8–34
184	22	5 months ...	Wentworth Falls.	Transferred ...	Positive...	Very extensive *c* cavitation, left slight apical.	......
185	19	8 months ...	Randwick ..	Transferred ...	Positive...	Extensive upper ½ left, fine mottling right.	2–6–33
186	53	1 month	Waterfall ...	7 months ...	Positive...	Extensive right, fairly chronic left......	16–7–33
187	22	3 months ...	Waterfall ...	2 months ...	Positive...	Increased markings whole right, and left hilar.	4–8–37
188	38	14 months ...	Wentworth Falls.	3 days	Positive...	Well-marked left apex	......
189	36	7 months ...	Randwick .	16 months ...	Positive...	Cavities at each apex	24–7–34
190	54	5 months ...	......	....	Positive...	Positive	......
191	15	8 months ...	......	....	Positive...	Positive	26–4–33
192	27	14 months ...	......	....	......	Well marked, cavitation both apices ...	20–10–33
193	26	2 months ...	......	....	......	Very extensive, almost whole both *c* cavitation.	......
194	42	9 months ...	Exeter	Transferred ...	Positive...	Whole right and upper half left	4–5–35
195	R. 28	2 months ...	Randwick ..	4 months ...	Positive...	Subacute mottling left *c* cavities	9–6–33
196	48	2 months ...	......	....	Positive...	Extensive bilateral	4–11–32
197	27	10 months ...	Exeter	Transferred ...	Positive...	Active bilateral	15–3–36
198	25	3 years	......	....	......	Advanced bilateral	2–7–35
199	30	6 months ...	Exeter	Transferred ...	......	Fairly recent and active left apex	......
200	47	15 months ...	Randwick ..	3 months ...	Positive...	Advanced bilateral	21–11–34
201	R. 47	8 months ...	Exeter	Transferred ...	Positive...	Both upper lobes *c* marked cavitation left upper lobe.	......
202	38	3 months ...	......	....	Positive...	Fairly chronic left apex, recent and active remainder both.	......
203	19	2 days	Bodington ..	3 years	Positive...	Left apical and infra clavic. *c* cavities ..	8–7–36
204	20	6 months ...	Wentworth Falls.	7 months ...	Positive...	Mottling both *c* cavitation right	......
205	43	2½ years	Waterfall ...	7 months ...	Positive...	Positive	......
206	32	14 months ...	Randwick ..	18 months ...	Negative	Extensive both upper lobes *c* cavitation	......
207	R. 54	8 months ...	Randwick ..	4 months ...	Positive...	Well marked right upper lobe, old left upper lobe.	......
208	49	6 months ...	Randwick ..	10 months ...	Positive...	Advanced whole right and upper ½ left cavitation.	21–9–34
209	33	8 months ...	Wentworth Falls.	5 days	Positive...	Mottling upper part left *c* ? cavity ...	......
210	36	4 months ...	......	....	Positive...	Advanced bilateral	13–1–33
211	20	4 months ...	......	....	......	Extensive bilateral, almost miliary in character.	11–1–33
212	21	3 months ...	Waterfall ...	18 months ...	Positive...	Left lung	......
213	39	5 months ...	Waterfall ...	2 months ...	Positive...	Advanced upper ¾ right *c* cavitation and fibrosis, chronic left.	25–10–33
214	20	4 months ...	......	....	Positive...	Very active bilateral.......................	15–1–33
215	17	10 weeks	......	....	Positive...	....	1–12–32
216	38	5 months ...	......	....	......	Cavitation right, some imvolvement left.	......
217	R. 36	2 months ...	Randwick ..	8 months ...	Positive...	Extensive chronic mottling upper ½ both.	......
218	27	6 months ...	......	....	Positive...	Extensive bilateral *c* cavitation left apex.	28–3–33
219	33	1 month	Waterfall ...	2 weeks	Positive...	Cavitation left apex, extensive involvement right.	......

Admission to Waterfall Sanatorium during 1932—Males—*continued.*

Patient's No.	Age.	Period in Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
220	29	2 months ...	Randwick ..	4 years	Positive...	Bilateral mottling upper lobes	21-3-37
221	58	3 months ...	......	....	Negative	Chronic apical infiltration *c* cavitation..	......
222	24	6 months ...	......	....	Positive...	Extensive bilateral	3-3 33
223	28	2 months ...	Waterfall ...	11 months ...	Positive...	....	......
224	35	1 month	......	....	Positive...	Bilateral	......
225	42	2 months ...	......	....	Positive...	....	1-8-35
226	30	6 weeks	......	....	Positive...	Advanced bilateral	21-10-33
227	44	2 months ...	......	....	Positive...	Upper ⅔ right *c* early extension left ...	......
228	29	5 months ...	......	....	......	....	Deported.
229	44	6 months ...	......	....	Positive...	Extensive bilateral	18-5-33
230	46	3 months ...	Exeter	Transferred ...	......	Bilateral chronic fibrotic, cavity right mid lobe.	16-3-36
231	43	4 months ...	......	....	Positive...	....	14-2-33
232	15	2½ years	Randwick ..	Transferred ...	Positive...	....	27-5-35
233	62	8 months ...	......	....	......	....	11-6-33
234	R. 35	5 months ...	Waterfall ...	1 year	Positive...	Upper ½ left *c* multiple cavities, upper ½ right.	......
235	6	3 months ...	......	....	......	Right hilar	......
236	49	7 months ...	......	....	Positive...	....	......
237	65	7 months ...	......	....	......	Right apical *c* small patch consolidation	31-5-35
238	37	3 months ...	Exeter	Transferred ...	Positive...	Extensive bilateral mottling *c* cavitation left.	......
239	46	1 month	......	....	Positive...	....	......
240	R. 52	6 months ...	Randwick ..	Transferred	Positive...	Well marked both upper lobes	4-8-33
241	58	11 months ...	Waterfall ...	1 year	Positive...	....	......
242	R. 28	5 months ...	......	....	Positive...	Extensive bilateral mottling *c* cavitation.	29-7-35
243	48	4 months ...	......	....	Positive...	....	25-2-33
244	45	13 months ...	Picton Lakes.	Transferred ...	Positive...	Scarring left apex *c* some activity below clavicle.	......
245	55	6 months ...	......	....	Positive...	Very extensive chronic bilateral mottling.	16-4-33
246	R. 50	6 months ...	Randwick ..	Transferred ...	Positive...	Extensive bilateral, chronic and recent	14-5-33
247	56	3 months ...	Waterfall ...	2 years	......	....	10-7-35
248	51	6 months ...	Picton Lakes.	Transferred ...	Negative	Old bilateral apical, recent hilar involvement.	......
249	32	6 months ...	Picton Lakes.	Transferred ...	Negative	Right sub-clavicular	......
250	R. 32	12 months ...	......	....	Positive...	Bilateral mottling	......
251	R. 40	3 months ...	......	....	Negative	Early bilateral apical mottling	......
252	R. 34	1 month	Randwick	Transferred ...	Positive...	Bilateral cavitation	Deported.
253	48	8 months ...	......	....	Positive...	Advanced bilateral	15-7-33
254	65	4 months ...	Randwick ..	11 months ...	Negative	Chronic fibrocaseous left, recent right middle.	5-4-34
255	58	3 weeks	......	....	Negative	Chronic left upper, generalised fibrosis	......
256	40	3 months ...	......	....	Positive...	Whole right *c* cavitation, extensive left mid third.	16-2-33
257	R. 46	2 months ...	Randwick ..	13 months ...	Negative	Advanced upper lobes *c* numerous large cavities.	29-4-34
258	38	5 months ...	Bodington ..	13 months ...	Positive...	Extensive right upper lobe *c* cavitation	......
259	31	4 months ...	Waterfall ...	7 months ...	Positive...	Chronic right *c* cavitation	19-5-37
260	R. 24	14 months ...	Randwick ..	1 month	Positive...	Cavitation right, slight involvement left.	24-5-34
261	31	5 months ...	......	....	Positive...	Chronic fibrocaseous right *c* cavitation, early left apex.	30-4-35
262	R. 61	5 months ...	......	....	Negative	Extensive right upper lobe	......
263	26	6 months ...	Exeter	Transferred ...	Negative	Extensive diffuse bilateral	10-9-33
264	50	3 months ...	......	....	......	....	22-2-33
265	27	13 months ...	......	....	Positive...	Marked left *c* consol and cavitation ...	30-1-33
266	24	5 months ...	Exeter	1 week.........	Positive...	Old cavity and fibrosis left, early cavitation right.	......
267	27	9 months ...	......	....	Positive...	Old and chronic right apex, mottling and cavitation lower lobes.	......
268	55	1 month	Randwick ..	Transferred ...	Positive...	....	27-1-33
269	R. 22	5 months ...	Picton Lakes	Transferred ...	......	....	......
270	43	4 months ...	Randwick ..	20 months ...	Positive...	Bilateral chronic infiltration	29-8-37
271	54	4 days	......	....	Positive...	Upper half both lungs	28-11-33
272	R. 32	9 months ...	Randwick ..	18 months ...	Positive...	Mottling right *c* cavitation, mottling left apex.	17-8-37
273	65	8 months ...	......	....	Positive...	....	5-7-33
274	26	8 months ...	......	....	......	Whole right and upper ½ left *c* large cavities.	......
275	53	7 months ...	Randwick ..	Transferred ...	Positive...	Extensive bilateral *c* cavitation	23-12-33
276	44	5 months ...	Waterfall ...	4 months ...	Positive...	....	15-6-35
277	51	5 months ...	Waterfall ...	5 months ...	Positive...	....	14-7-36
278	46	6 months ...	Waterfall ...	1 month	Positive...	Extensive bilateral *c* cavitation at apices.	......
279	78	6 weeks	......	....	Positive...	....	......
280	61	5 months ...	......	....	Negative	Bilateral—advanced *c* cavitation	12-5-33
281	R. 67	11 months ...	Waterfall ...	5 months ...	......	Bilateral	21-5-35
282	54	6 weeks	Randwick ..	20 months ...	Positive...	Positive	28-12-34
283	28	7 months ...	Exeter	2 weeks	Positive...	Advanced chronic *c* cavitation upper ½ both.	......
284	18	1 month	......	....	......	....	13-1-33
285	25	4 months ...	Waterfall ...	3 years	Positive...	Both apices *c* cavitation and fibrosis ...	......
286	38	1 month	......	....	Positive...	....	......
287	40	1 month	......	....	Positive...	Left hilar	......

Admission to Waterfall Sanatorium during 1932—Males—*continued.*

Patient's No.	Age.	Period in Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission	Sputum.	X-Ray Report.	Died.
288	24	13 months ...	......	....	Positive...	Extensive bilateral c cavitation	22–5–35
289	24	4 years	......	....	Positive...	Mottling left	27–11–37
290	31	6 months ...	Waterfall ...	2½ years	......	Consolidation c cavitation right upper lobe.	7–10–37
291	43	6 months ...	Waterfall ...	2 years	......	....	......
292	26	2 months ...	......	....	Positive...	Extensive bilateral c numerous cavities	31–12–33
293	46	2 months ...	......	....	......	....	......
294	57	6 months ...	......	....	Positive...	....	15–6–33
295	47	2 months ...	......	....	Positive...	Bilateral mottling	......
296	15	1 month	......	....	Positive...	Probable left	......
297	17	13 months ...	Randwick ..	3 months ...	Positive...	Extensive bilateral c well-marked cavitation left.	11–5–35
298	43	4 months ...	Randwick	Transferred ...	Positive...	....	17–4–33

SUMMARY (Male Patients, Waterfall).

Admitted in 1932 298

ANALYSIS of Deaths.

Died in 1932	31
Died in 1933	66
Died in 1934	31
Died in 1935	21
Died in 1936	16
Died in 1937	13
	178 or 59·7 per cent.
Readmitted to Sanatoria	143

Admission to Waterfall Sanatorium During 1932—Females.

Patient's No.	Age.	Period in Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
1	22	10 months ...	......	....	......	Bilateral c cavitation in one lung	28–11–32
2	38	1 month	......	....	......	Advanced c cavitation	16–2–32
3	31	2 months ...	Randwick....	2 months ...	Positive...	....	8–6–32
4	59	2 months ...	......	....	Positive...	Positive	......
5	48	3 months ...	......	....	Positive...	Well marked active right..................	......
6	R. 24	4 months ...	Randwick ..	6 months ...	......	....	......
7	R. 48	5 months ...	Waterfall ...	19 months ...	Positive...	Bilateral c recent exacerbation	31–1–36
8	38	1 month	......	....	Positive...	Advanced bilateral	24–3–32
9	34	3 months ...	......	....	Positive...	Very extensive active mottling upper ½ both c cavitation.	1–1–33
10	32	2 months ...	......	....	Positive...	....	21–4–32
11	R. 29	6 months ...	Waterfall ...	20 months ...	......	Tuberculosis kidney	15–1–36
12	37	4 months ...	......	....	......	Mottling both upper lobes	11–6–32
13	25	10 months ...	Randwick ..	Transferred ...	Positive...	Very active bilateral c cavitation	1–1–33
14	29	1 month	......	....	......	Mottling right apex	......
15	21	3 months ...	......	....	Positive...	Extensive active bilateral c cavitation	14–10–33
16	24	3 months ...	......	....	......	Cavity left, active right	11–5–32
17	27	7 months ...	......	....	......	Very extensive bilateral c cavitation right.	......
18	38	6 days	......	....	......	Upper lobe right	......
19	20	11 months ...	......	....	Positive...	Very extensive mottling upper ½ both c cavitation.	23–1–33
20	18	5 months ...	......	....	Positive...	Bilateral apical cavitation	6–3–33
21	R. 32	3 months ...	Waterfall ...	4 years	Positive...	Extensive right upper ½ c cavitation ...	......
22	34	4 months ...	Randwick....	Transferred ...	Positive...	Extensive active bilateral c cavitation..	3–4–34
23	26	10 months......	Randwick....	1 month	......	Extensive bilateral c cavitation	30–7–33
24	15	2 years	Waterfall ...	2 years	Positive...	Increased markings left hilar and lower lobe.	27–1–36
25	14	13 months ...	......	....	Positive...	....	......
26	28	1 month	......	....	Positive...	Positive	20–4–32
27	29	1 month	Waterfall ...	8 months ...	Positive...	Positive	12–9–35
28	24	8 months ...	Malahide ...	Transferred ...	Positive...	Extensive bilateral c cavitation	17–4–33
29	R. 27	16 months ...	......	....	Positive...	Bilateral fibrosis-caseating	23–9–36
30	37	2 months ...	......	....	Positive...	Well-marked left, ? early right	2–5–32
31	20	3 months ...	......	....	Positive...	Advanced upper right c numerous cavities.	......
32	34	3 weeks	......	....	Positive...	Cavitation and collapse left upper lobe, small right apex.	26–11–32
33	R. 28	10 months ...	Randwick....	Transferred ...	Positive...	Well-marked c cavitation	......
34	20	1 month	Randwick....	4 months ...	Positive...	Bilateral mottling	12–12–32
35	32	2 months ...	......	....	Positive...	Bilateral c cavity at one apex............	8–5–32
36	22	5 months ...	......	....	Positive...	Well-marked mottling upper ½ left ...	......
37	35	5 years	......	....	Positive...	Advanced bilateral c cavitation	......
38	33	8 months ...	Randwick....	8 months ...	Positive...	Cavitation right, mottling left	4–10–33
39	22	4 months ...	Randwick....	2 months ...	Positive...	Very advanced left, lesion right sub-apical and base.	27–3–34
40	22	3 months ...	......	....	Positive...	Extensive both upper lobes c bilateral cavitation.	25–6–32
41	37	12 months ...	Randwick....	3 months ...	Positive...	....	14–7–33
42	R. 40	6 months ...	......	....	Positive...	Well-marked bilateral c fibrosis and cavitation.	......
43	31	3 months ...	......	....	Positive...	Bilateral mottling	4–7–32
44	R. 52	5 years	......	....	Positive...	Double apical phthisis	......
45	50	10 months ...	Randwick....	10 months ...	Positive...	Fibroid left c miliary extension right ...	14–1–33
46	24	5 months ...	......	....	......	Well-established apical c cavitation ...	......
47	22	3 months ...	......	....	......	....	18–7–32
48	41	5 months ...	Randwick....	2 months ...	Positive...	Very extensive bilateral mottling	......
49	19	4 months ...	......	....	Positive...	Consolidation left, right clear	4–8–32
50	23	12 months ...	......	....	......	Bilateral sub-apical mottling	......
51	R. 26	4 months ...	Waterfall ...	3 months ...	Positive...	Very extensive mottling right upper lobe and whole left lung.	13–12–33
52	51	1 month	......	....	Negative	Consolidation right apex suggests tuberculosis.	....
53	24	4 months ...	Randwick....	14 months ...	Positive...	Extensive bilateral c cavitation	10–3–37
54	25	5 months ...	......	....	Positive...	Early, base right upper lobe	12–5–32
55	32	1 months ...	......	....	Positive...	Bilateral	12–8–34
56	51	14 months ...	......	....	Positive...	Very advanced bilateral of active sub-miliary type.	13–10–32
57	23	6 months ...	......	....	Positive...	Active right, left clear	5–9–32
58	27	5 months ...	......	....	Positive...	Bilateral apical	6–4–34
59	42	4 months ...	......	....	Positive...	Active bilateral c cavitation	19–4–33
60	26	12 months ...	......	....	Positive...	Partial pneumo left, early mottling right.	11–2–33
61	16	3 months ...	......	....	......	Whole right upper lobe c cavitation, also lower left lobe.	......
62	25	4 months ...	......	....	Positive...	Right upper lobe	......
63	42	7 months ...	......	....	......	....	......
64	R. 29	2½ years	......	....	......	Right artificial pneumothorax	......
65	31	2 months ...	......	....	Positive...	Marked cavitation left hilar region ...	......
66	30	9 months ...	......	....	Positive...	Both upper lobes	26–9–34
67	30	11 months ...	Malahide ...	1 month	Positive...	Chronic bilateral c well-marked cavitation.	......
68	25	4 years	......	....	......	Bilateral c cavity right apex	......
69	33	4 days	......	....	......	Well-marked right upper lobe c cavitation.	......
70	4	4 days	......	....	......	Increased hilar shadows, almost certainly tuberculosis.	......
71	35	3 months ...	......	....	Positive...	....	

Admissions to Waterfall Sanatorium during 1932—Females—*continued.*

Patient's No.	Age.	Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
72	50	3 months	......	....	Positive...	Bilateral	......
73	23	5 months	......	....	Positive...	Extensive right upper lobe *c* cavitation. fairly extensive left base.	25-10-32
74	37	10 months	......	....	Positive...	....	......
75	49	4 months	......	....	Positive...	Chronic bilateral	2-10-32
76	25	7 months	......	....	Positive...	Bilateral tending towards fibrosis	28-3-34
77	49	12 days	Waterfall	17 months	Negative	Recent and active left upper lobe, old right apex.	......
78	37	2 months	......	....	Positive...	Bilateral mottling	5-8-32
79	38	4 months	......	....	Positive...	Extensive cavitation right apex, mottling whole left.	......
80	29	4 months	Waterfall	1 month	Positive...	Extensive bilateral *c* cavitation	21-7-35
81	26	9 months	......	....	......	Extensive cavitation right, active lesion left hilar.	......
82	19	3 months	Waterfall	4 months	Positive...	Fine mottling upper right	4-9-34
83	28	4 months	......	....	Negative	Left apical	......
84	45	9 months	......	....	......	Very extensive right apex and left upper lobe *c* cavitation.	......
85	36	6 months	......	....	Positive...	Bilateral *c* cavitation right apex	4-1-33
86	42	6 months	......	....	Positive...	Generalised bilateral fibrosis	......
87	28	5 months	......	....	......	Extensive bilateral mottling *c* cavitation.	4-12-32
88	39	8 months	Waterfall	10 months	......	Active bilateral, chronic upper ⅓	......
89	32	11 months	Randwick	Transferred	Positive...	Extensive bilateral mottling	19-5-34
90	56	6 months	Waterfall	1 month	......	....	2-7-34
91	52	2 months	......	....	Positive...	Active bilateral	......
92	25	3 months	......	....	Positive...	Left base	......
93	31	6 months	Waterfall	16 months	Positive...	Bilateral	......
94	26	6 months	......	....	......	Extensive left upper lobe, slight right apex.	......
95	37	7 months	Waterfall	8 months	Negative	Right upper lobe, left apex and left base.	......
96	43	9 months	......	....	Positive...	Extensive right lower lobe, definite involvement left apex.	9-5-33
97	19	2 months	......	....	Positive...	Diffuse mottling both upper lobes	18-12-33
98	25	5 months	......	....	Positive...	Pneumothorax left side, slight mottling left.	......
99	34	4 months	......	....	Positive...	Extensive right *c* cavitation, almost miliary left.	21-12-32
100	32	3 months	......	....	Positive...	Bilateral, sub-acute in type	4-11-32
101	31	8 months	......	....	......	Right apex old, *c* some present activity	......
102	R. 13	13 months	......	....	Positive...	....	13-6-35
103	20	13 months	Picton Lakes	Transferred	......	Well-marked bilateral *c* early cavitation right apex.	......
104	23	14 months	Malahide	7 months	Positive...	Left base suggests bronchitis rather than tuberculosis.	3-5-34
105	31	8 months	Waterfall	12 months	Positive...	Left fairly advanced, right apical	......
106	39	6 months	Waterfall	3 months	Positive...	Extensive bilateral *c* numerous cavities	21-10-35
107	21	2 months	......	....	......	Advanced bilateral *c* numerous cavities	18-10-32
108	29	4 months	Waterfall	10 months	Positive...	Increased bilateral mottling	19-11-33
109	44	6 months	......	....	......	Bilateral chronic 1	3-1-35
110	20	6 months	......	....	Positive...	Advanced whole right	24-11-35
111	26	12 months	......	....	Positive...	Cavitation both apices	......
112	21	2 months	......	....	Positive...	....	7-12-33
113	26	1 month	Thirlmere	Transferred	......	Early, 1st right interspace	......
114	45	7 months	......	....	Positive...	Extensive active bilateral	27-5-33
115	56	20 months	Waterfall	3 months	Positive...	....	......
116	34	4 months	Waterfall	2 years	Positive...	Sub-acute mottling upper ½ right	9-8-35
117	18	6 months	......	....	Positive...	....	10-3-33
118	8	15 months	Waterfall	10 months	? Positive	....	......
119	19	4 months	......	....	Positive...	....	20-8-33
120	19	6 months	Thirlmere	2 months	Positive...	Extensive bilateral *c* cavitation	5-3-34
121	22	3 weeks	......	....	Positive...	Extensive mottling upper ½ left	......
122	18	5 months	Waterfall	8 months	......	Right base *c* calcification both hilar regions.	7-1-34
123	19	3 months	......	....	Positive...	Advanced left *c* cavition	......
124	60	5 months	......	....	Positive...	....	28-5-35
125	30	3 months	......	....	Positive...	Extensive bilateral *c* cavitation	21-7-33
126	26	3 months	Waterfall	1 month	......	Right sub-apical	......
127	55	17 months	......	....	Positive...	Bilateral, extensive cavitation right	......
128	26	6 months	......	....	Positive...	....	15-5-33
129	21	5 months	......	....	......	Left upper lobe and base, also right lung.	23-9-33
130	28	2 years	Waterfall	9 months	Positive...	Marked bilateral *c* cavitation	......
131	14	2 years	......	....	Positive...	Advanced upper ½ right, early extreme left apex.	......
132	21	18 months	Randwick	Transferred	Positive...	Extensive bilateral apical	18-8-34
133	26	4 months	......	....	Positive...	Advanced right upper lobe *c* cavitation, focus left upper lobe.	9-5-33
134	23	5 months	Randwick	Transferred	Positive...	Chronic bilateral *c* cavitation left	22-9-33
135	60	5 months	Waterfall	1 month	Positive...	....	......
136	25	3 months	......	....	......	Extensive active bilateral	23-2-34
137	36	1 month	......	....	Positive...	Advanced bilateral	11-12-32
138	47	4½ years	......	....	Positive...	Cavities both apices	15-6-37
139	27	7 months	Randwick	1 month	......	Extensive bilateral *c* cavitation	......
140	47	6 months	......	....	......	Bilateral apical cavitation	......
141	7	6 months	......	....	......	No records	......

Admissions to Waterfall Sanatorium During 1932—Females—*continued*.

Patient's No.	Age.	Period in Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
142	19	4 months ...	......	....	......	Extensive bilateral	4-3-34
143	27	4 days	......	....	Positive...	Extensive right, and upper lobe left *c* bilateral cavitation.	26-11-32
144	24	6 months ...	Waterfall ...	2 months ...	Positive...	....	21-4-35
145	46	13 months ...	Waterfall ...	6 months ...	Positive...	....	......
146	14	6 months ...	......	....	......	Extensive bilateral markings	20-9-33
147	37	4 months ...	Randwick....	9 months ...	Positive...	Increased markings left apex	9-10-34
148	19	3 months ...	......	....	Negative	Advanced *c* cavitation left lung	8-11-33
149	R. 28	18 months ...	......	....	Positive...	Active left upper lobe, suspicious right upper lobe.	14-11-35
150	64	1 month	Randwick....	Transferred ...	Positive...	Extensive bilateral	4-5-33
151	23	6 months ...	......	....	......	Right apical	......
152	22	4 months ...	......	....	......	Extensive whole upper $\frac{2}{3}$ both *c* cavitation.	29-12-33
153	50	4 months ...	......	....	Positive...	....	......
154	18	5 months ...	Waterfall ...	2 months ...	......	Fairly extensive both upper lobes *c* cavitation.	......
155	26	3 months ...	Randwick....	Transferred ...	......	Very extensive whole both *c* cavity left apex.	14-4-33
156	37	1 month	......	....	Negative	Small pneumothorax right apex, right upper lobe consolidation.	......

SUMMARY (Female Patients, Waterfall).

Admitted in 1932	156

ANALYSIS of Deaths.

Died in 1932	28
Died in 1933	31
Died in 1934	16
Died in 1935	10
Died in 1936	4
Died in 1937	2
	91, or 51·9 per cent.
Readmitted to Sanatoria	52

Admissions to Q.V. Home, Wentworth Falls, during 1932—Males.

Patient's No.	Age.	Period in Sanatorium.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
1	31	10 months ...	Wentworth Falls.	13 months ...	Positive...	Mottling left upper lobe	......
2	25	9 months ...	......	....	......	Advanced bilateral *c* cavitation	......
3	31	5 months ...	Waterfall ...	5 months ...	Positive...	Chronic upper ⅔ right *c* cavitation	19–5–37
4	44	4½ years	......	....	Positive...	Left upper lobe *c* several small cavities	......
5	R. 69	2 months ...	......	....	Positive...	Extensive left *c* cavitation	1–6–33
6	29	12 months ...	......	....	Positive...	....	......
7	31	12 months ...	......	....	......	Active fibro caseous right *c* cavitation..	9–6–35
8	43	12 months ...	Waterfall ...	15 months ...	Positive...	Fibrosis left apex *c* mottling left mid third.	6–5–37
9	29	2 months ...	Randwick	1 month ...	Positive...	Left hilar region *c* cavitation	27–4–33
10	46	8 months ...	......	....	......	Old pleurisy *c* effusion left base, bilateral apical.	......
11	33	12 months ...	Picton Lakes	Transferred ...	......	Early extreme left apex	......
12	48	6 months ...	......	....	......	? chronic right side	......
13	19	15 months ...	Randwick....	Transferred ...	......	Sub-acute left sub-apical	10–6–33
14	20	8 months ...	......	....	......	Chronic right upper lobe	......
15	28	5 months ...	Waterfall ...	1 month	Positive...	Sub-acute left *c* cavitation	9–6–33
16	55	7 months ...	......	....	Positive...	Scattered infiltration both	......
17	27	16 months ...	......	....	......	Early bilateral mottling	......
18	15	12 months ...	......	....	Positive...	Mottling right *c* consolidated lower part upper lobe.	......
19	20	10 months ...	Wentworth Falls.	2½ years	......	Bilateral apical mottling, sub-acute ...	......
20	R. 22	11 months ...	......	....	......	Active ? mottling right upper lobe ...	......
21	18	8 months ...	Wentworth Falls.	14 months ...	......	Mottling right *c* cavitation	28–10–36
22	R. 49	10 months ...	......	....	Negative	Bilateral	6–9–34
23	36	8 months ...	......	....	Positive...	Extensive bilateral mottling *c* cavitation right.	......
24	23	11 months ...	......	....	Positive...	Bilateral apical	......
25	25	11 months ...	......	....	Positive...	Active bilateral of moderately early stage.	......
26	23	12 months ...	......	....	Negative	Active bilateral apical	......
27	28	11 months ...	Bodington	1 month	Positive...	Upper half left and right apical	......
28	31	6 months ...	......	....	......	Bronchiectasis, no characteristic evidence tuberculosis.	......
29	40	7 months ...	......	....	Positive...	Bilateral apical	......
30	29	5 months ...	Randwick....	1 year	Positive...	Active right middle lobe, slight left middle lobe.	17–2–34
31	37	6 months ...	......	....	Positive...	Extensive upper ½ right and mid ⅓ left *c* bilateral cavitation.	......
32	21	11 months ...	......	....	Positive...	Well-marked mottling upper ½ right ..	......
33	31	12 months ...	Waterfall ...	2½ years	Positive...	Extensive bilateral apical *c* cavitation, recent and very active.	......
34	52	11 months ...	......	....	......	No records	......
35	29	8 months ...	......	....	Positive...	Chronic bilateral *c* cavitation right upper lobe.	......
36	42	10 months ...	Bodington	5 months ...	Positive...	Very extensive, greater part left and right upper lobes.	13–8–36
37	31	3 months ...	......	....	Positive...	Chronic left apex and right upper lobe..	......
38	R. 44	9 months ...	......	....	......	Chronic bronchitic changes	......
39	20	8 months ...	Wentworth Falls.	7 months ...	Positive...	Extensive bilateral *c* cavitation	3–12–34
40	R. 30	5 months ...	Wentworth Falls.	11 months ...	Positive...	Right upper lobe *c* well-marked cavitation, slight left.	......
41	44	4 months ...	......	....	......	Extensive left *c* cavitation hilar region	......
42	45	12 months ...	......	....	Negative	Old right apex, much more recent both bases.	......
43	23	10 months ...	Bodington	14 months ...	Positive...	Extensive right *c* cavitation, recent and active.	......
44	39	11 months ...	Waterfall ...	3 years	Positive...	Chronic right *c* cavitation, early left ..	......
45	38	2½ years	Randwick....	Transferred ...	Positive...	Extensive bilateral *c* large cavity both apices.	3–6–35
46	47	8 months ...	......	....	......	Dullness and mottling upper part right *c* cavitation.	......
47	R. 46	12 months ...	......	....	Positive...	Active and extensive bilateral	21–8–36
48	17	7 months ...	Wentworth Falls.	2½ years	......	No records	......
49	60	7 months ...	Waterfall ...	Transferred ...	Positive...	Old bilateral fibroid *c* cavitation right upper.	6–5–34
50	20	10 months ...	......	....	Positive...	Active right *c* cavitation	31–12–34
51	42	13 months ...	Bodington ..	11 months......	Positive...	Old right apex *c* considerable pleural thickening.	......
52	24	6 months ...	Randwick....	3 weeks	Positive...	Bilateral upper lobes	1–11–33
53	26	2 weeks	Bodington ..	6 months ...	......	Early bilateral apical mottling, *c* consolidated mid ⅓ left.	6–2–35
54	34	8 months ...	......	....	Negative	Mottling each apex and right base......	......
55	40	10 months ...	......	....	Positive...	Chronic apical *c* recent spread to bases	......
56	33	10 months ...	Wentworth Falls.	3 years	Negative	Extensive chronic upper ⅔ left, and upper ⅓ right.	......
57	47	17 months ...	Bodington ..	8 months ...	Negative	Advanced chronic left *c* cavitation ...	......
58	15	10 months ...	Wentworth Falls.	6 months ...	......	Bilateral *c* early cavitation	......

SUMMARY (Patients, Queen Victoria Sanatorium, Wentworth Falls).

Admissions in 1932	58
Deaths in five years	18, or 31 per cent.

ANALYSIS of Deaths.

Died in 1932	...
Died in 1933	5
Died in 1934	5
Died in 1935	3
Died in 1936	3
Died in 1937	2
	18

25 patients sought re-admission to Sanatoria.

Admissions to Queen Victoria Homes, Thirlmere, during 1932—Females.

Patient's No.	Age.	Period in Sanatorium.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
1	30	8 months	Randwick	5 months	Positive	Positive	13–9–34
2	19	12 months	Randwick	11 months	Positive	Right upper lobe	20–2–34
3	R. 26	10 months	Waterfall	11 months	......	Right upper lobe, recent and active	......
4	16	13 months	......	....	Positive	Positive	......
5	25	2 months	Thirlmere	$4\frac{1}{2}$ years	......	Fibrosis left infra-clavicarea, also right upper lobe.	......
6	43	13 months	......	....	Negative	Increased markings right apex and axillary border.	......
7	29	6 months	......	....	Positive	Early left apex	......
8	...	6 months	......	....	......	....	......
9	21	2 months	Randwick	2 months	Positive	Active mottling left sub-apical, old nodes left hilum.	30–10–33
10	17	13 months	......	....	Positive	Extensive mottling whole right upper lobe c areas pneumothorax.	6–11–33
11	43	11 months	......	....	Positive	Extensive active right	......
12	35	2 months	......	....	......	Extensive bilateral	24–7–34
13	21	2 months	Malahide	1 month	Positive	Both upper lobes c cavitation left	30–11–32
14	17	4 months	......	....	......	Well-marked right upper lobe	30–11–34
15	25	1 month	Randwick	2 years	......	Bilateral c cavitation and fibrosis	7–2–34
16	24	6 months	......	....	Positive	Extensive infiltration left lung, mid $\frac{1}{3}$ right lung.	......
17	29	12 months	......	....	Positive	Right apex and sub-apical c very large cavity.	30–6–36
18	17	5 months	......	....	Positive	Both upper lobes c cavitation	14–12–33
19	29	8 months	......	....	......	Chronic right upper lobe	......
20	R. 26	5 months	......	....	Positive	Bilateral apical mottling	......
21	20	8 months	Malahide	2 years	......	Chronic right c cavitation, sub-acute left apex, acute left lower.	17–2–35
22	...	8 months	......	....	......	....	......
23	R. 25	6 months	R. T. Hall	2 years	Positive	Bilateral mottling, chronic and active	8–3–35
24	21	10 months	......	....	Negative	Scarring each apex	......
25	22	6 months	......	....	......	Chronic mottling left apical and sub-apical.	18–6–36
26	36	1 month	......	....	......	Bilateral sub-apical	......
27	19	11 months	......	....	Negative	Mottling right apex	......
28	31	10 months	......	....	Positive	Slight mottling under 2nd left rib	......
29	26	7 months	......	....	......	Fine mottling upper $\frac{1}{3}$ left	......
30	17	4 days	......	....	Negative	Fairly extensive right around hilum and apex.	......
31	24	3 days	Waterfall	$3\frac{1}{2}$ years	Negative	Active right upper and mid zones	......
32	19	10 months	Randwick	3 months	......	Well established, active right c cavitation.	28–4–35
33	25	9 months	......	....	......	Whole left c cavitation, early active right sub-apical.	......
34	24	6 months	......	....	......	Chronic both upper lobes	16–6–37
35	20	6 months	......	....	Negative	Early bilateral apical	......
36	23	9 months	......	....	......	Old bilateral apical c recent extension right side.	......
37	R. 37	8 months	......	....	Positive	Sub-acute left sub-apical and middle zones.	......
38	15	12 months	......	....	Negative	Active bilateral apical	......
39	17	8 months	......	....	Positive	Extensive left, early right	......
40	31	9 months	......	....	Positive	Extensive infiltration mid $\frac{2}{3}$ right lung recent, active.	......
41	28	11 months	......	....	Positive	Bilateral apical mottling	......
42	30	6 months	Randwick	10 months	......	Small exudative lesion right upper	11–9–33
43	17	9 months	......	....	Negative	Left apical	25–5–34
44	25	9 months	......	....	......	Bilateral mottling	......
45	34	4 months	......	....	......	Bilateral mottling	......
46	21	4 days	Randwick	1 month	......	Well-marked right c cavitation, mottling left sub-apical.	13–8–32
47	15	6 months	......	....	......	Diffuse apical peribronchial mottling	4–5–37
48	38	8 months	......	....	......	Advanced chronic bilateral c cavitation and fibrosis.	......
49	25	6 months	......	....	......	Right apical and sub-apical, extremely small left apical.	5–1–36
50	29	6 months	......	....	Positive	Early left apex	......
51	27	3 months	......	....	Positive	Very extensive right upper and middle lobes. and left upper lobe.	......
52	29	9 months	......	....	Positive	Sub-acute right mid zone and hilar region.	......
53	26	9 months	......	....	Positive	Small area one apex and other sub-apical.	......
54	21	9 months	Waterfall	7 months	Positive	Right middle lobe	30–4–34
55	24	12 months	......	....	Positive	Right apical c cavitation, left hilar and right hilar.	......
56	19	9 months	......	....	Negative	Active bilateral apical	......
57	22	10 months	......	....	......	Slight left sub-apical	......
58	23	9 months	......	....	......	Right upper lobe	......
59	55	6 months	......	....	Negative	Old bilateral apical fibrotic lesions	......
60	23	7 months	......	....	......	Light mottling both sub-apical regions	17–1–35
61	55	10 months	......	....	......	Chronic upper left and middle right	......
62	R. 43	8 months	......	....	Negative	Active bilateral	......
63	46	8 months	......	....	......	Bilateral apical of fibro-caseous type	......
64	53	9 months	......	....	Positive	Positive	8–7–37
65	R. 25	3 months	......	....	......	Left c cavitation, early right	......
66	R. 26	12 months	......	....	......	Early right 1st intercostal space	......

Admissions to Queen Victoria Homes, Thirlmere, during 1932—Females—*continued.*

Patient's No.	Age.	Period in Sanatorium.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
67	22	11 months ...	......	....	Positive...	Early active left hilar region	10–11–33
68	32	9 months ...	......	....	Negative	Early chronic at extreme left apex ...	......
69	22	6 months ...	......	....	......	Mottling left apex and right lung	......
70	18	10 months ...	......	....	Positive...	Right apical and left infra-clavicular ..	......
71	R. 30	3 months ...	Waterfall ...	1 month	Positive...	Consolidated right apex, cavitation left hilum, fibrosis left lung.	8–5–34
72	27	7 months ...	Randwick....	15 months ...	Negative	Well-marked active right apex	4–3–35
73	24	11 months ...	......	....	Positive...	Active whole right	......
74	21	8 months ...	......	....	Positive...	Right hilar	......
75	25	5 months ...	......	....	Negative	Fairly chronic right sub-apical	......
76	R. 44	5 months ...	Waterfall ...	8 months ...	Positive...	Very extensive, recent and active left...	18–1–37
77	R. 28	9 months ...	Randwick	2 years	Positive...	Advanced cavitation right upper lobe ..	2–8–36
78	R. 28	5 months ...	Waterfall ...	2 weeks	Positive...	Extensive bilateral	......
79	R. 30	11 months ...	......	....	Positive...	Right apical infiltration	......
80	34	5 months ...	Bodington	8 months ...	......	Chronic left, active and well-advanced right.	29–12–34

Admitted in 1932	80
Died in 1932	2
Died in 1933	5
Died in 1934	9
Died in 1935	5
Died in 1936	4
Died in 1937	4
Total Deaths in six years...	29, or 36·2 per cent.

Re-admitted to Sanatoria—19.

Admissions to Bodington Sanatorium during 1932.

Patient's No.	Age.	Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
1	48	7 months ...	Malahide ...	Transferred ...	Positive...	Advanced bilateral *c* cavitation left upper lobe.	24-3-34
2	R. 42	17 months ...	......	....	Positive...	Bilateral acute left upper, chronic right	9-9-33
3	R. 28	14 months ...	Wentworth Falls ...	7 months ...	......	Active right upper lobe	......
4	38	5 months ...	Malahide ...	Transferred ...	Positive...	Active bilateral, cavitation left sub-apex.	21-5-33
5	33	10 months ...	Bodington	1 year	......	Right apical and sub-apical *c* cavitation	......
6	R. 54	4 months ...	......	....	Positive...	Extensive bilateral *c* cavitation	26-5-36
7	43	5 months ...	Malahide ...	Transferred ...	Positive...	Bilateral fibrosis, activity right apex...	26-3-33
8	38	3 months ...	......	....	......	Early active bilateral	18-3-33
9	32	6 months ...	......	....	Positive...	Advanced left upper lobe *c* cavitation	18-3-33
10	R. 47	1 month	......	....	......	Left apical mottling	9-7-36
11	R. 66	2 months ...	......	....	Positive...	Involvement of right, pleurisy left......	......
12	R. 48	12 months ...	Waterfall ...	1 month	Positive...	Right apical *c* small cavitation	......
13	41	8 months ...	......	....	Positive...	Positive	......
14	R. 36	2 weeks	Randwick....	10 months ...	Positive...	....	18-9-34
15	R. 30	11 months ...	Malahide ...	Transferred ...	Positive...	....	15-3-34
16	42	7 months ...	......	....	......	Chronic bilateral	23-5-37
17	R. 23	3 months ...	......	....	......	No records	12-6-35
18	41	4 months ...	......	....	......	No records	4-8-32
19	42	5 months ...	......	....	Positive...	....	......
20	R. 51	3 years	......	....	Negative	Advanced chronic upper ½ both	......
21	56	3 years	......	....	Positive...	Extensive active right, slight left	......
22	23	2 months ...	Bodington	4½ years	Positive...	Extensive bilateral	......
23	R. 41	4 months ...	......	....	Positive...	Extensive active bilateral—miliary ...	12-6-32
24	42	6 months ...	Bodington	4 years	Positive...	Bilateral *c* cavity right, recent left ...	......
25	R. 18	1 year	Bodington	18 months ...	Positive...	Fibrosis left upper, cavitation left	......
26	17	1 year	......	....	Positive...	Lower left and left hilar	......
27	32	1 year	......	....	Negative	Early active bilateral, sub-apical	......
28	71	3 months ...	......	....	......	No records	......
29	R. 32	1 year	Bodington...	4 months ...	Positive...	Extensive active bilateral, advanced apices.	14-8-36
30	36	14 months ...	Waterfall ...	14 months ...	Positive...	Advanced bilateral *c* cavitation and fibrosis.	14-9-36
31	R. 20	19 months ...	Exeter	Transferred ...	Positive...	Extensive sub-acute right	1-9-35
32	50	11 months ...	......	....	......	Positive	......
33	R. 23	13 months ...	......	....	Positive...	Extensive right	......
34	R. 25	2 months ...	......	....	......	No records	11-12-32
35	23	2 months ...	......	....	......	Advanced bilateral	14-7-32
36	R. 32	2 years	Malahide ...	2 years	Positive...	Extensive active bilateral *c* cavity left	26-8-36
37	36	1 week.........	......	....	......	Bilateral, upper ½ right, middle left ...	3-1-35
38	35	2 months ...	Randwick....	1 month	Positive...	....	9-5-33
39	31	1 year	Malahide ...	Transferred ...	Positive...	Well-marked mottling right upper ...	18-2-36
40	35	1 year	......	....	Positive...	Positive	......
41	41	13 months ...	......	....	Positive...	Bilateral *c* cavitation	......
42	R. 43	3 years	Bodington...	3 months ...	Positive...	....	......
43	37	4 months ...	Waterfall ...	18 months ...	Positive...	Bilateral—extensive fibrosis right and left apex.	4-8-35
44	33	3 months ...	......	....	......	Active mottling *c* cavitation right ...	......
45	25	1 month	......	....	Positive...	....	6-8-32
46	R. 42	3 months ...	Randwick	1 week.........	......	Extensive right, fluid left	5-10-32
47	26	4 months ...	Bodington...	1 month	Negative	Early right apical	......
48	26	9 months ...	Bodington...	2 months ...	Positive...	....	......
49	R. 32	8 months ...	Bodington...	9 months ...	Positive...	Chronic bilateral apical	......
50	27	11 months ...	Malahide ...	Transferred ...	Positive...	Mottling and cavitation left	3-7-33
51	25	3 months ...	Bodington...	1 month	Positive...	Active bilateral, extensive left *c* cavitation.	1-1-33
52	32	10 months ...	Waterfall ...	1 month	Positive...	Bilateral apical	14-3-36
53	30	1 month	......	....	......	No records	8-6-32
54	26	1 month	Randwick....	3 months ...	Positive...	Advanced *c* cavitation	27-10-32
55	R. 48	2 years	......	....	Negative	Bilateral apical	......
56	33	10 months ...	Waterfall ...	3 years	Positive...	....	......
57	32	3 months ...	......	....	Negative	Bilateral	2-1-33
58	23	2 days	......	....	......	No records	4-6-32
59	17	4 months ...	......	....	......	Early bilateral apical	......
60	24	7 months ...	Malahide ...	Transferred ...	Positive...	Extensive fibrosis left	29-1-33
61	R. 37	3 months ...	......	....	Positive...	Bilateral apical	13-12-36
62	40	5 months ...	......	....	Negative	Bilateral mottling	15-9-36
63	32	6 months ...	......	....	Negative	Mottling and cavitation right	......
64	42	6 months ...	Bodington...	2 years	......	Active bilateral	......
65	R. 19	2 months ...	......	....	Positive...	Fibrosis and cavitation left upper lobe..	25-4-33
66	R. 55	12 months ...	......	....	Positive...	Extensive bilateral, cavity left, early right.	7-7-33
67	R. 35	7 months ...	Bodington...	11 months ...	Positive...	Advanced upper ½ both *c* cavitation ...	......
68	34	10 months ...	Bodington...	3 months ...	Positive...	Pneumothorax right apex *c* extensive mottling.	3-4-37
69	48	3 months ...	Waterfall ...	7 months ...	......	Chronic bilateral	......
70	28	7 months ...	......	....	Positive...	Chronic bilateral apical	......
71	21	1 month	Waterfall ...	14 months ...	......	Early right sub-apical	......
72	R. 21	8 months ...	Randwick....	9 months ...	......	Extensive bilateral	7-11-34
73	38	6 months ...	......	....	......	Chronic right upper *c* cavitation	......
74	48	1 week.........	......	....	Positive...	Extensive chronic bilateral *c* cavitation	23-8-35
75	19	2 years	Bodington...	2 months ...	Positive...	Mottling and cavitation right	......
76	31	2 months ...	......	....	......	No records	6-5-33
77	64	1 week.........	......	....	......	No records	26-9-32
78	29	6 months ...	......	....	......	Bilateral apical	......
79	R. 42	6 months ...	Bodington...	7 months ...	Positive...	Recent and active upper ½ both	......
80	R. 38	3 months ...	Waterfall ...	5 months ...	Positive...	Active left upper lobe	18-8-33

Admissions to Bodington Sanatorium during 1932—*continued.*

Patient's No.	Age.	Period in Waterfall.	Further Admission to Sanatorium at	Period between Discharge and Re-admission.	Sputum.	X-Ray Report.	Died.
81	46	3 weeks	......	....	Positive...	....	9–7–33
82	44	5 months ...	......	....	Positive...	....	......
83	29	7 months ...	Exeter	Transferred ...	Positive...	Positive	......
84	18	14 months ...	Malahide ...	Transferred ...	......	Extensive recent active right upper *c* cavitation.	12–3–35
85	42	2 months ...	......	....	Positive...	Definite old left apex	......
86	R. 27	6 months ...	......	....	......	No records	5–11–33
87	R. 30	5 months ...	Bodington...	4 years	......	No records	......
88	R. 32	4 months ...	Malahide ...	Transferred ...	Positive...	....	13–1–37
89	42	4 months ...	Bodington...	4 months ...	......	Active right sub-apical.....................	......
90	R. 29	3 months ...	Randwick....	5 months ...	Positive...	Upper ½ right, slight left	19–1–37
91	25	3 months ...	......	....	......	No records	......
92	R. 44	10 months ...	......	....	Positive...	Bilateral upper halves, cavitation left..	......
93	48	2 weeks	Malahide ...	Transferred ...	Positive...	....	29–1–33
94	26	3 months ...	......	....	Positive...	Old bilateral fibroid *c* cavitation.........	......
95	38	1 year	Exeter	Transferred ...	Negative	Old chronic whole left	......
96	R. 32	9 months ...	Bodington...	1 month	Positive...	Extensive bilateral with cavitation ...	8–9–34
97	38	2 weeks	......	....	Positive...	Right lung	......
98	27	2 years	......	....	......	Left apical	......
99	57	5 weeks	Malahide ...	Transferred ...	......	No records	27–2–33
100	19	4 months ...	......	....	......	Advanced bilateral mottling and fibrosis.	......

SUMMARY (Patients, Bodington Red Cross Sanatorium).

Admissions during 1932 100

Died up to 1937 ... ... 51, or 51 per cent.

ANALYSIS of Deaths.

Died in 1932 10

Died in 1933 17

Died in 1934 5

Died in 1935 6

Died in 1936 9

Died in 1937 4

51

Forty-eight sought re-admission to Sanatoria.

Nos. 18, 32, 35, 38, 53, 65, 71, 76, 86, 87, 88, and 91 were females.

Admissions to Exeter Red Cross Farm, 1932—Males.

Patient's No.	Age.	Period in Exeter.	Further admission to Sanatorium at—	Period between discharge from Exeter and admission.	Died.
1	27	11 months	....	....	......
2	32	11 months	Randwick	7 months	......
3	26	3 months	....	....	19–12–33
4	31	6 months	....	....	......
5	28	2 weeks	Waterfall	6 months	......
6	33	2 months	Randwick	1 year	15–10–35
7	36	9 months	Waterfall	18 months	......
8	46	6 months	Wentworth Falls	1 month	21–8–36
9	31	8 months	Randwick	1 month	......
10	58	2 months	Waterfall	7 months	......
11	60	12 months	Waterfall	8 months	......
12	60	6 months	....	....	......
13	32	5 months	Waterfall	11 months	......
14	30	6 months	Randwick	1 year	27–8–35
15	42	7 months	....	....	......
16	49	1 year	Picton Lakes	Transferred	......
17	21	10 months	....	....	......
18	50	1 month	Bodington	14 months	......
19	32	10 months	Bodington	3 years	......
20	47	1 month	Waterfall	3 months	31–3–33
21	30	8 months	Bodington	2 years	14–8–37 (suicide).
22	23	3 months	Waterfall	2 months	16–11–36
23	41	2 months	Waterfall	1 month	3–7–33
24	39	1 year	....	....	......
25	48	1 year	Waterfall	18 months	......
26	48	1 year	....	....	......
27	29	1 year	....	....	......

SUMMARY (Patients at Exeter).

Admitted during 1932	27
Died from tuberculosis within five years of admission ...	7, or 25·9 per cent.

ANALYSIS of Deaths.

Died in 1933	3
Died in 1934	0
Died in 1935	2
Died in 1936	2
	7

Eighteen, or 66·6 per cent. sought re-admission to Sanatoria.
13 in 1 year or under.
4 in 1½ years.
1 in 2 years.

DIVISION OF INDUSTRIAL HYGIENE.

REPORT OF THE MEDICAL OFFICER OF INDUSTRIAL HYGIENE FOR THE YEAR ENDED 31st DECEMBER, 1937.

Staff.—Medical Officer of Industrial Hygiene, Charles Badham, B.Sc., M.B., Ch.M., D.P.H.; Physicist Assistant, H. E. G. Rayner, B.Sc.; Second Assistant, A. M. Willison, M.Sc.

This Division undertakes the investigation of hazards to health in factories, mines and industry generally; the examination of factory children; and the diagnosis of cases of occupational disease.

DUST DISEASES OF THE LUNGS.

The work of the Medical Officer of Industrial Hygiene in the investigation into dust diseases and on the special Pneumonokoniosis Board of the Workers' Compensation Commission has continued.

As a member of the Sub-Committee on Pneumoconiosis of the Correspondence Committee on Industrial Hygiene, of the International Labour Office he has been invited to attend a conference at Geneva in September of 1938 when experts from various countries will discuss the following subjects:—

1. Recent advances in the knowledge of the *pathology* of silicosis, including the effect if any of non-siliceous dusts admixed with silica or silicates in the production of pulmonary fibrosis or tuberculosis.
2. Pneumoconiosis of workers at *coal mines* and of other workers exposed to *coal dust*.
3. Pulmonary disease (or disability) due to *inhalation* of *dust* in industries other than those covered by 1 and 2 (with quali- and quanti-tative estimation of the composition of the *dust* in question).
4. Methods and standards of *early diagnosis* of pneumoconiosis, with or without infection, including determination of the silica content of the blood, urine and fæces. Value if any of early diagnosis of simple silicosis in regard to the question of *removal from dusty occupations* with a view to the arrest of the disease.
5. (*a*) Methods of *dust investigation* as regards sampling, concentration, composition and size frequency distribution. Possibility of standardising these methods.
   (*b*) Intensity of exposure to dust and means of estimating same.
   (*c*) Possibility of establishing experimental criteria for determining the degree of pathogenicity of dust.
6. What contributions from other scientific fields are essential to the solution of the pneumoconiosis problem ?
7. Determination of disability and assessment of the degree of such disability in pneumoconioses.*
8. Prevention:—
   (*a*) Initial examination of workers in dusty industries and methods and standards for same.
   (*b*) Campaign against dust in general and siliceous dust in particular.
   (*c*) Personal protection by means of masks, etc.
9. The specific therapy of silicosis and results of any investigations into methods for stimulating elimination of silica.
10. The most practical means by which the Sub-Committee can assist in the anti-dust campaign through co-operation with other organisations and individuals.

The last conference attended by the Medical Officer of Industrial Hygiene was at Johannesburg in 1930 and the proceedings there caused world-wide attention.

REPORT ON THE WORKING CONDITIONS IN THE ABRASIVE POWDER AND SOAP SECTIONS AT A SUBURBAN SOAP WORKS.

On 7th June, 1937, an inspection was made of the conditions of work in the sections in which an abrasive powder and abrasive soap are manufactured.

In conjunction with the Department of Labour and Industry, several inspections have been made of this work during the past twelve months, and a recommendation was made for the installation of exhaust ventilation in positions where the dust concentration appeared greatest. A ventilation plant has been in operation for four months and from observation it appears to have reduced the exposure appreciably. However, a hazard still exists which might be minimised by an improvement in the dust removal system.

The hazard has been investigated by inspection of the conditions, dust sampling in selected positions, and by radiographic examination of the chests of three employees who have worked for 5, 14 and 20 years in the powder and soap sections of the factory.

Conclusions and Recommendations.

A serious silicosis hazard exists in this industry. With an efficient dust removal system the hazard may be reduced. At present the dust concentration found in certain sections is sufficient to cause silicosis.

The radiographs of the chests of three employees show that A. E. J. (20 years' exposure) and C. B. (14 years' exposure) have contracted silicosis. J. M. (5 years' exposure) does not appear to have any evidence of silicosis.

The gravimetric dust samples, show that in packing the abrasive powder into containers there is an exposure to fine dust (silica and diatomaceous earth) equal to 1·58 mgms. per cubic metre.

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* Beyond defining standards of disability, the question of compensation is not being dealt with by the Geneva Conference, since the numerous factors which would have to be taken into consideration would necessitate the presence of additional experts who cannot on this occasion be convened.

In weighing and mixing the ingredients of the abrasive powder the dust exposure was found to be 1·92 mgms. per cubic metre. During the test the ventilation was very good, and I am of the opinion that the exposure would be much greater when the natural ventilation was less efficient. The dust removal plant is now operating and appears to have reduced the exposure appreciably. The exposure would be further reduced if the weighing was carried out under an efficient exhaust.

In cutting and stamping the soap, the dust concentration was 4·2 mgms. per cubic metre. This work is of a continuous nature and a serious silicosis hazard exists. Apart from an improvement in the dust removal plant, I would recommend—

(1) that sweeping the trays with a hand broom be discontinued, and a vacuum brush installed.

(2) that a less dangerous dust, such as pumice, be used for dusting.

The dust exposure in various sections varies from 1·43 to 4·2 mgms. per cubic metre, averaging 2·3 mgms. per cubic metre. Tests carried out by this Division in a stonemason's shed gave a dust concentration of 1·24 to 7·10 mgms. per cubic metre, averaging 4·2 mgms. per cubic metre.

Observations Made During Inspection on 7th June, 1937.

The abrasive powder is composed of silica, diatomaceous earth and soap powders, over 50 per cent. of the total weight being silica.

The abrasive soap is a mixture of silica and soap.

The silica is received in small jute bags from an ore milling firm and stacked in the cellar warehouse. These bags are fairly dusty, there is a deposit of silica dust on the floor that may be described as dusty to one inch in depth. When required, these bags are taken on a truck by lift to the top floor. There is a probable exposure to silica dust when handling the bags. In the basement trucks are filled by chute with offal from the soap. The floor is swept up and there would be an exposure to dust during the sweeping and also when handling the bags containing silica. There is a probable exposure when the chutes discharging the offal are in operation. Each of these operations is intermittent.

The top floor is used for the mixing of the abrasive powder and the tipping of silica used for the manufacture of the abrasive soap. The ingredients used in the manufacture of the powder are weighed, partly mixed by hand in a box and tipped by chute to the first floor where it passes through a sieve into the mixer and finally discharges into a truck for packing. On the top floor there appeared to be a grave exposure to dust in weighing, mixing by hand, and shaking the empty silica bags.

In the sciving and mixing, and discharging of the powder the exposure is intermittent. Exhaust ventilation is provided, but there is an escape of dust at the chute when discharging. The exposure is not as serious as on the top floor.

In cutting and stamping the soap, silica and kaolin are dusted on the trays and slabs of soap. Exhaust ventilation is provided, but it is not sufficient to stop dust flying. When the cutting has been completed and the cakes of soap removed, the trays are swept with a hand broom and this operation gives rise to clouds of fine silica and kaolin dust. The dust exposure at this point is marked, and my observations have been verified by dust sampling results.

In the powder packing section, young girls are exposed to a concentration of dust that might cause ill-health after a number of years' exposure. This work is intermittent.

Gravimetric Dust Samples.

The weight of dust found in the air at three positions in the soap and powder sections of these works are shown in the attached table. Sampling was carried out with a Greenburg-Smith Impinger, large volumes of air being drawn through water in which the dust is trapped and may be weighed and examined. Samples (1) and (2) were taken over the packing table for the powder, Sample (3) on the top floor in the powder mixing section, and Sample (4) in the cutting and stamping department in the manufacture of the soap.

In samples (1), (2), and (3) the dust would be composed of silica, diatomaceous earth and soap powders. Sample (4) would chiefly contain silica and kaolin and probably some soap. The inhalation of soap powders is not likely to have any action on the lungs, and this was eliminated from the sample by washing and centrifuging. The particles of silica, diatomaceous earth and kaolin varied in size from 1 micron or less to over 50 microns. Particles greater than 10 microns are considered less harmful than the finer particles and were separated from the finer particles by sedimentation. In the table the weights of fine particles and coarse particles are given separately.

The results in Samples (1) and (2) indicate the exposure of six girls and one boy to silica and diatomaceous earth when clamping lids and packing the abrasive powder. The average weight of fine silica and diatomaceous earth is 1·58 mgms. per cubic metre, and of coarse dust 0·89 mgm. per cubic metre. This work is carried out on about three days each week. An exposure to this amount of dust over a number of years might lead to a fibrosis of the lungs. The ventilation in this section is poor, there is little natural ventilation. With good ventilation the hazard would be small. The youth employed filling the containers is probably more exposed to dust than the packers. The actual filling is done under exhaust ventilation, but dust flies in the air when transferring the powder from the truck to the filling apparatus by hand shovel.

Sample (3) was taken in the section used for weighing and mixing the ingredients of the abrasive powder. The dust is similar in nature to that in samples (1) and (2), the greater proportion being silica. The concentration of fine dust was 1·92 mgms. per cubic metre and of coarser dust 1·26 mgms. per cubic metre. When this test was carried out the natural ventilation was very good, the air change being a number of times per hour. In my opinion there is a definite dust hazard in this section, which has been reduced by the installation of exhaust ventilation for mixing by hand and tipping into the chute. At present weighing out the ingredients gives rise to dust most of which could be eliminated if carried out under exhaust. The shaking of bags covered with silica dust is also objectionable.

Sample (4) gives the dust exposure when cutting and stamping the soap. The weight of dust in mgms. per cubic metre was 4·2 for the fine particles and 4·4 for the coarser particles. This work is of a continuous nature and the dust exposure is serious. An exhaust is provided at one position. The exhaust might be improved, but the greatest amount of dust appears to come from sweeping the dust from the trays with a hand broom after cutting.

Several methods of overcoming this are indicated.

(1) A vacuum brush for sweeping.
(2) Replacing the silica and kaolin with a less dangerous dust such as pumice.

The dust exposure over a number of years in this operation will certainly cause pneumonokoniosis

COMPARISON OF DUST EXPOSURE IN ABOVE PROCESS WITH DUST EXPOSURE OF STONEMASONS.

In a monogram published by this Division in the Annual Report of the Director General of Public Health for 1927, details of the exposure of sandstone masons in Government Stonemason's shed at Maroubra are given. In this group there is known hazard, and the exposure to silica dust was found to vary from 1·24 mgms. to 7·10 mgms. per cubic metre, with an average of 4·2 mgms. per cubic metre over eleven tests. The figures obtained at these Balmain Soap Works in various processes varied from 1·13 to 4·2 mgms. per cubic metre, averaging 2·3 mgms. per cubic metre.

TABLE showing the amount of dust in the air at three positions in the abrasive powder and abrasive soap sections of a suburban soap works. The dust which was collected in water with a Greenburg-Smith Impinger was separated into fine and coarse particles by sedimentation. Soap dust soluble in water was eliminated by washing. The table shows total dust collected, total inorganic dust and fine and coarse dust in mgms. per cubic metre.

Date.	Number of Sample and Position where Sample was Collected.	Cubic Feet of Air Sampled at Rate of 1 Cubic Foot per Minute.	Total Dust Collected.		Total Inorganic Dust Collected.		Inorganic Dust in Mgms. per Cubic Metre.		Remarks.
			Fine.	Coarse.	Fine.	Coarse.	Fine.	Coarse.	
			Mgms.	Mgms.	Mgms.	Mgms.			
9-6-37	(1) Packing abrasive powder into containers, fitting lids, and packing into boxes.	111	5·8	4·2	5·4	3·4	1·72	1·09	The dust described as fine contains silica, diatomaceous earth and probably sericite. The coarse dust is mostly silica, the particles averaging 30 to 40 microns in size, also large particles of diatomaceous earth.
9-6-37	(2) Same as (1)	173	7·6	4·8	7·0	3·4	1·43	0·69	do do
10-6-37	(3) Weighing and mixing ingredients of abrasive powder, top floor.	166	9·5	6·9	9·0	5·9	1·92	1·26	do do
10-6-37	(4) Cutting and stamping abrasive soap.	64	8·2	9·2	7·6	8·0	4·2	4·4	Composed of silica and kaolin

DUST SAMPLING WITH OWEN'S KONIMETER.

Dust sampling was carried out with Owen's Konimeter in positions similar to those at which the gravimetric samples were taken. Five slides taken near the abrasive powder packing table gave an average count of 225 clear particles per c.c., the majority of which were 1 to 3 microns in size, probably silica. There were also some opaque particles about 1 micron or less. The yard air contained 48 clear particles per c.c. and over 200 opaque particles per c.c. about ½ to 1 micron in size. These are probably smoke particles.

In the powder packing section the slides showed an average dust count of 134 per c.c. These appeared to be mostly silica.

In the section used for cutting and stamping abrasive soap the average dust concentration was 297 particles per c.c. mostly from 0·5 to 1 micron in size, and apparently silica and kaolin.

HAZARDS TO HEALTH FROM GLASS CUTTING AT CRYSTAL GLASS WORKS, SYDNEY.

Following a preliminary inspection of the works it appeared that the hazards to which the employees might be exposed were :—

(1) Inhalation of dusts such as silica, carborundum, glass, lead.
(2) Fatigue due to the nature of the work.
(3) Eye injuries from particles of carborundum, glass, etc.

The dust exposure was determined by two methods :—

(*a*) By sampling the atmosphere of the cutting shops and at selected cutting wheels to determine the number of dust particles and nature of the dust particles present in the air.
(*b*) By collecting the dust present in large volumes of air from the vicinity of four cutting wheels for a determination of the weight of dust to which the cutters were exposed. (Owing to the small weight of dust collected, it was impossible to make a chemical analysis.)

The possibility of exposure to lead from the glass or from the red lead used to mark the pattern on blanks was considered and an examination was made of the blood of six girls.

From observation and practical test, I consider that the work is interesting and not likely to lead to undue fatigue in females of good physique.

The incidence of eye injuries is apparently not marked. During the time that the tests were being conducted several had carborundum particles in their eyes, but these were removed by fellow employees. It was stated that occasionally the services of a medical man are required.

Conclusions and Recommendations.—The outside atmosphere in the vicinity of the works contains a large number of small opaque particles about 0·5 micron in size. These are probably smoke or carbon particles and the counts made may be taken as the average dust in the atmosphere of this district.

The air in the cutting shops contains a number of these small opaque particles, sometimes less and sometimes more than in the outside air, depending partly upon the number of wheels in relation to the floor area and the ventilation. Clear crystalline particles that are probably caused by glass cutting are also present, but not in sufficient numbers, in my opinion, to cause ill-health.

A certain amount of dust gets into the air when roughing with carborundum wheels, but it is not sufficient to be considered dangerous.

There is no hazard from smoothing with Craigleith or sandstone wheels. Similar conclusions are arrived at in regard to bevelling with composition stones.

Certain intermittent processes are dangerous. In turning mitres on new hardstone wheels or Craigleith wheels or similar wheels, heavy clouds of dust are formed and this work should not be carried out without local exhaust ventilation, and preferably should be done in a special room apart from the cutting shops.

Under the present conditions of work, there appears to be little danger of contracting lead poisoning. The blood slides of six girls (three from carborundum stones, and three from smoothing stones) who had been cutting glass for 3 to 6½ years, showed a small amount of punctate basophilia (averaging 250 per million red cells). Their hæmoglobins were within normal limits, and as the dust exposure is not marked, I am of the opinion that the lead hazard is negligible.

Good natural ventilation is available but at times practically all windows were kept closed and I am of the opinion that permanent ventilation by louvres or other means should be provided. At present fumes from amyl acetate used for removing red lead from the glass are very noticeable. With better ventilation they would be less objectionable. The highest dust counts and dust weights were in the big cutting shop where the ventilation was least satisfactory, owing to the windows being kept almost continuously closed.

Animal Experiments to Determine the Action of Finely Ground Glass Dust on the Lungs.

At present there is no medical evidence to show the effect on the lungs of the inhalation of fine glass dust, and experiments are being conducted by this Division to determine this. The results of these tests will not be known for some months.

Results of Dust Sampling.

Examination of Sludge.—A microscopic examination of the sludge from a carborundum wheel showed that over 90 per cent. of the dust was glass. Comparatively little of this dust was under 10 microns, the particles ranging from 10 to 50 or 60 microns.

The sludge from a Craigleith wheel was mostly glass. The particles were much smaller than those from a carborundum wheel, about 90 per cent. being under 5 microns.

Determination of Dust in the Air of Cutting Shops and in the Vicinity of Selected Cutting Wheels.

The results of the dust sampling with the Owen's Konimeter are summarised in four tables. Table 1 shows the number of dust particles in the air surrounding the works, and in the room air of three of the cutting shops. The number of particles per c.c. in the yard varied from 187 to 896, most of the particles being opaque and less than 1 micron in size. These particles appear to be smoke or carbon particles and the count probably represents the average dust in the atmosphere of this district. The air in the rooms is also mostly composed of these small opaque particles, but has a small percentage of clear particles. The counts in the big cutting shop were generally higher than in the outside air, and also than that in Urner's shop and probably in Fryer's shop. Good natural window ventilation is available in all shops, but only in Fryer's shop was reasonable use made of it. This factor plus the greater number of wheels in relation to floor area doubtless accounts for the higher counts in the big shop.

The opaque particles that appear on all the above slides should not be considered in determining the dust hazard from the general atmosphere of these rooms, and I am of the opinion that the air does not contain sufficient dust of a dangerous nature to be harmful.

DUST EXPOSURE FROM GLASS CUTTING WITH CARBORUNDUM STONES.

Table 2 shows the dust counts of air samples taken near the carborundum stones in several shops. For comparison the dust counts for outside air and the room air are shown in the table. The highest counts were obtained in the big cutting shop, the dust concentration in Urner's and Fryer's shop being about equal to that of the general atmosphere of the room.. From the nature of the dust, I am of the opinion that the cutting of glass with a carborundum wheel under the method examined is not dangerous to health.

DUST EXPOSURE FROM GLASS CUTTING WITH SANDSTONE AND CRAIGLEITH STONE.

The results of dust samples taken in the vicinity of sandstone and Craigleith wheels during the process of smoothing are shown in Table 3. Apart from the high count obtained on 23rd April, 1937, when the room air showed a similar dust concentration, the dust counts were similar to those for the general room atmosphere, with only a small percentage of clear crystalline particles.

The results plus the nature of the particles, indicate that there is no dust hazard in the above process.

DUST EXPOSURE WHEN TRIMMING CARBORUNDUM WHEELS, FLUTING, BEVELLING.

Dust counts from slides taken when the above processes were being carried out show that the dust concentration is similar to that found for the other processes, but in trimming the carborundum wheels more clear particles, probably small particles of carborundum or steel are found on the slides. This work is intermittent and the amount of dust is not sufficiently marked to create a definite hazard.

DUST EXPOSURE WHEN TURNING A MITRE ON WHEELS.

Table 4 shows the dust counts obtained when a composition "hardstone" wheel and a Craigleith wheel were having a mitre turned. In this process a heavy cloud of dust is formed, which vitiates the atmosphere for some distance away from the wheel. The particles are under 10 microns, and of a character that would cause ill-health. The work is intermittent, but should not be carried out in the shop unless local exhaust ventilation is provided. It would be preferable to mitre new wheels in a special room with local exhaust ventilation provided.

Gravimetric Samples.—Four tests were made with the Greenburg-Smith Impinger to determine the weight of dust to which the cutters are exposed. The first sample was collected near a Craigleith wheel in the big cutting shop and showed 2·52 mgms. per cubic metre of air. In the same shop a sample collected in the vicinity of a carborundum wheel showed 7·31 mgms. per cubic metre.

In Urner's room where the ventilation is better than in the big cutting shop and less wheels are in use in relation to the floor area, the weight of dust per cubic metre at a Craigleith wheel was 2·09 mgms. In this shop a sample at a carborundum wheel was collected over three days and the dust collected was equal to 1·09 mgms. per cubic metre.

The weights given show the total dust including organic material such as carbon, smoke, &c., and apart from No. 2 sample, are regarded as satisfactory. In this sample more than 50 per cent. of the total dust was organic, leaving about 3·5 mgms. per cubic metre of inorganic dust. In this shop the ventilation is poor, and felt wheels are continuously in use. Sample 4 taken over a long period (519 minutes working time) at a carborundum wheel gives a better indication of the exposure to dust when cutting with a carborundum wheel.

TABLE 1.—*Showing Dust Particles per c.c. in Room Air in Different Sections (Crystal Glass Works, Sydney.)*

The dust counts in the air of the Yard surrounding the works are shown for comparison.

Date.	Number of Particles per c.c. in Yard.	Number of Particles per c.c. in Big Cutting Shop.	Number of Particles per c.c. in Urner's Shop.	Number of Particles per c.c. in Fryer's Shop.	Remarks.
23-4-37	...	1,435	...	...	Mostly opaque particles less than 1 micron.
28-4-37	187	245	52	...	The particles in the slide taken in the yard and in all but one slide taken in the two cutting shops were opaque particles under 1 micron.
		236	47		
		252	...		
		292	288		
3-5-37	896	809	291	Very faint	Slide taken in yard contained opaque particles under 1 micron. The slides taken in the Big Cutting shop and Urner's shop contained 10 per cent. of clear particles, 1 to 4 microns, and the remainder opaque particles under 1 micron.
		574	...		
		577	204		
5-5-37	198	487	513	...	Slide taken in yard contained opaque particles under 1 micron. The slides in the two cutting shops contained from 5 to 10 per cent. of clear 1 micron particles, and the remainder opaque particles under 1 micron.
			348		
			344		

TABLE 2.—Showing Particles per c.c. near Carborundum Wheel when Glass cutting. Dust concentration in yard and in room air is shown for comparison.

Date.	Room.	Particles per c.c. in Yard.	Nature of Particles.	Particles per c.c. in Room Air	Nature of Particles.	Particles per c.c. near Carborundum Wheel.	Nature of Particles.	Remarks.
23-4-37	Big Cutting Shop.	......	......	1,435	Mostly opaque less than 1 micron.	1,423	Mostly opaque less than 1 micron.	Raining all day. Most of windows closed.
28-4-37	Big Cutting Shop.	Very light, 187.	Opaque under 1 micron.	245 236	Mostly opaque particles about 0·5 micron.	636 602	15 per cent. clear particles about 1 micron. Remainder opaque less than 1 micron.	Clear day. Most of windows closed.
				252	30 per cent. clear probably from felt wheel.			
				292	Mostly opaque less than 1 micron.			
28-4-37	Urner's Shop ...	Very light, 187.	Opaque under 1 micron.	52 47 288	Opaque less than 1 micron.	69	Opaque less than 1 micron.	Ventilation fair. Clear day.
						193 292 Very light, 370.	10 per cent. clear. Rest opaque.	
30-4-37	Urner's Shop ...	......	......	...	....	348 217 260	5 per cent. clear 1 to 3 micron.	Ventilation very fair. Bright day. Westerly breeze.
						507	25 per cent. clear about 1 micron. Remainder opaque.	
3-5-37	Urner's Shop ...	896	Opaque from 0·25 to 0·5 microns.	291	Opaque less than 1 micron.	78	25 per cent. clear, rest opaque.	Ventilation only fair. Clear day. Light westerly breeze.
				204	10 per cent. clear parts 1 micron. Rest opaque about 0·5 micron.	270	20 per cent. clear, rest opaque.	
						313	15 per cent. clear, rest opaque.	
3-5-37	Fryer's Shop ...	896	Opaque particles 0·25 to 0·5 micron.	Very faint.	....	365	Opaque particles about ½ micron.	Ventilation good.
5-5-37	Urner's Room	198	Mostly opaque about 0·5 micron.	513	5 per cent. clear. Rest opaque. About 0·5 micron.	248 304	Mostly opaque particles less than 1 micron.	Bright day. Little wind. Ventilation good.
				348	10 per cent. clear. About 0·5 micron.			
				344	10 per cent. clear. About 0·5 micron.			

Table 3.—Showing Dust Particles per c.c. near Sandstone or Craigleith Wheels. Dust concentration in air of yard and in room air is shown for comparison.

Date.	Room.	Particles per c.c. in Yard.	Nature of Particles.	Particles per c.c. in Room Air.	Nature of Particles.	Particles per c.c. near Wheels (Sandstone or Craigleith).	Nature of Particles.	Remarks
23-4-37	Big Cutting Shop.	......	......	1,435	Mostly opaque less than 1 micron.	1,544 1,174 344	Mostly opaque less than 1 micron. 5 per cent. clear particles 1 micron. Rest opaque above ½ micron.	Raining heavily all day.
23-4-37	Miss Martin's Shop.	......	......	...	....	869 830	Mostly opaque less than 1 micron. 4 per cent. clear 1 to 3 microns. Remainder opaque ½ microns.	....
28-4-37	Big Cutting Shop.	Very light, 187.	Opaque under 1 micron.	245 236	Mostly opaque about 0·5 micron 30 per cent. clear.	344	Mostly opaque less than 1 micron.	....
				253	Probably from felt wheel.	292	10 per cent. clear 1 micron. Remainder opaque less than 1 micron.	
				292	Mostly opaque less than 1 micron.			
28-4-37	Urner's Room	Very light, 187.	Opaque under 1 micron.	52 47	Opaque less than 1 micron.	Very light,	Opaque less than 1 micron.	....
				288	Opaque less than 1 micron.	301 241	Opaque less than 1 micron.	
5-5-37	Urner's Room	198	Mostly opaque about 0·5 micron.	513	5 per cent. clear. Rest opaque about 0·5 micron.	280	10 per cent. clear. Remainder opaque under 1 micron.	....
				348	10 per cent. clear. Rest opaque about 0·5 micron.			
				344	10 per cent. clear. Rest opaque about 0·5 micron.			

Table 4.—Showing Dust Concentration when Turning Mitre on Hardstones (Composition) and Craigleith Stones.

Date.	Room.	Process.	Particles per cc.	Nature of Particles.	Remarks.
30-4-37	Urner's ...	Turning mitre on new hard stone.	2,456	Practically all ½ to 3 micron particles—Cloud of dust visible.	Quite a marked dust cloud visible during this operation. Particles mostly from composition stone but also some carborundum particles.
		Same as above several minutes later.	522	Do do	do do do
5-5-37	Urner's ...	Turning mitre on 22-inch Craigleith stone.	5,719	Mostly clear particles 1 to 3 microns—Heavy cloud of dust visible.	Heavy cloud of dust for some distance from the Craigleith stone.
		As above but 5 minutes later.	2,150	Do do	Most of particles from Craigleith stone, but some carborundum particles also present.
	5 feet	away from stone being mitred.	815	Mostly clear particles 1 to 2 microns.	Do do do

Table 5.—Showing the dust in the air near four cutting stones at Crystal Glass Works, Sydney.

Date.	Rooms and Process.	Air Sampled.		Total dust found. milligrams.	Total dust mgms. per cub. ft.	Remarks.
		Cub. ft.	Cub. metres.			
23-4-37	Big cutting shop. Smoothing on 14-inch Craigleith wheel.	129	3·65	9·2	2·52	This dust includes organic particles which appear to be quite appreciable.
28-4-37	Big cutting shop. Fluting with carborundum wheel.	62	1·75	12·8	7·31	In sample (2) over 50 per cent. was organic matter.
28-4-37	Urner's shop. Smoothing on sandstone wheel.	108	3·06	6·4	2·09	....
30-4-37 3-5-37 5-5-37	Urner's shop. Cutting on carborundum wheel.	519	14·7	16·0	1·09	....

LEAD POISONING.

Ninety-four (94) individuals, suspected of having lead poisoning, were examined by this Division; of these, thirty-three (33) were diagnosed as having lead poisoning with disability, and the remaining sixty-one (61) as having no disability or as not being lead poisoned. As in previous years, the majority of the individuals diagnosed as having lead poisoning came from accumulator factories, a total of seventeen (17); other industries which furnished cases of lead poisoning being, painting and paint manufacture (8), vitreous enamelling (6) and lead smelting (2).

The examination of blood smears, submitted by medical officers in charge of six factories engaged in the manufacture of accumulators and battery plates, has been continued and 1,571 slides were reported on. Examinations were also made of blood slides submitted by the medical officer of a vitreous enamelling factory, a total of 90; blood slides submitted by the medical officer in charge of a lead smelting works, a total of 22; and also blood slides submitted by a physician conducting a survey of the incidence of ill-health amongst individuals employed in the paint manufacturing industry, a total of 21 slides.

The Accumulator Industry.—There was a reduction of the number of cases of lead poisoning in this industry, chiefly due to the installation of extra protective devices in the factories. Owing to the large increase of trade and the labour shortage causing an undesirable working of overtime in many factories, several cases of lead poisoning occurred in the larger and better equipped factories where no cases have occurred for several years.

The Vitreous Enamelling Industry.—There was a slight reduction in the number of cases of lead poisoning in this industry, chiefly due to the use of a non-lead enamel by the largest vitreous enamelling factory in New South Wales.

The Lead Smelting Industry.—The reduction of the number of cases of lead poisoning in the lead smelting industry was due to the installation of better protective equipment, and to the employment, during the last quarter, of a medical officer by one of the lead smelting firms.

Table showing the occupations of 94 individuals examined for lead poisoning during 1937, and the diagnosis.

Industry.	Occupation.	Number examined.	Lead poisoning with disability.	Not lead poisoned, or lead poisoning without disability.
Printing	Linotyping	2	...	2
	Stereotyping	2	...	2
	Hand composing	4	...	4
	Other processes	2	...	2
Manufacture of Accumulator Batteries.	Pasting	5	5	...
	Mixing	1	1	...
	Assembling	1	1	...
	Burning	5	4	1
	Moulding	3	1	2
	Formation	3	1	2
	Handling dry plates	3	2	1
	Repair work	1	...	1
	Lead oxide plants	2	1	1
	Cleaning	1	...	1
	Other processes	3	1	2
Painting	Coach painting	1	1	...
	House painting	16	3	13
	Spray painting	3	...	3
	Bridge painting	3	1	2
	Ship painting	1	1	...
	Paint factory	1	...	1
	Lead corroding	4	2	2
Vitreous Enamelling	Mixing	1	1	...
	Spraying	7	5	2
Smelting of Metals	Lead	13	2	11
	Tin	1	...	1
Rubber Industry	Melting scrap lead	1	...	1
Carpentry		1	...	1
Soldering		1	...	1
Engineering Industry	Turning metal bearings	2	...	2
	Total	94	33	61

COACH PAINTING.

Blood examinations were made of thirty-six coach painters employed by the N.S.W. Government Railways. These men were variously engaged in brushing, spraying and rubbing down cellulose and lead paints. An anaemia of moderate degree, due to lead intake, was found in almost half of these painters.

TETRAETHYL LEAD.

At each medical examination by Dr. K. Fairley of the Sydney men engaged in mixing tetraethyl petrol, we have examined the blood slides taken for the presence of stippled cells. Of the 66 slides examined, 21 showed the presence of punctate basophilia, the highest count being 2,700 per million red cells. The average number of stippled cells per slide was 185 per million red cells. No cases of lead poisoning have arisen from the use of tetraethyl lead in New South Wales.

ARSENIC POISONING.

A man employed spraying arsenic pentoxide was seen four months after leaving work. He complained that he had had diarrhoea, nausea, lassitude, weakness of the legs, a rash of the hands and legs and soreness of the nails. Analysis of hair and urine showed :—arsenic in urine, 0·48 mg. per litre; arsenic in hair, 0·40 mg. per 100 g.

A carpenter who killed termites by dusting with white arsenic complained of diarrhoea, occasional pains in the stomach and vomiting, lack of energy and pains across the chest. Analysis of the hair and urine showed :—arsenic in urine, 0·008 mg. per litre; arsenic in hair, 5·6 mg. per 100 g.

A man employed sieving arsenic complained of pains in the stomach, vomiting, diarrhoea, 'pins and needles' in fingers and toes, pains in hands, insteps, knees and face, soreness of nose and blurriness of the vision. His throat was reddened, and there was a soreness of the calves on pressure. Analysis of urine, hair and nails showed :—arsenic in urine, 0·32 mg. per litre; arsenic in hair, 32·0 mg. per 100 g.; arsenic in nails, 80·0 mg. per 100 g.

A case of dermatitis in a man refining a bismuth ore containing arsenic was reported.

A man engaged in manufacturing sheep dip from arsenic, caustic soda and sulphur, developed a conjunctivitis, ulceration of the septum and dermatitis of the face. Three other employees engaged on the same process developed a dermatitis.

CYANIDE.

A man employed in the New South Wales Government Railway Workshops was engaged at work in a case-hardening plant at a pot of molten cyanide which contained approximately 26·2 per cent. of sodium cyanide, together with barium carbonate and sodium chloride. One of his duties was to feed the bath with a powder containing approximately 50 per cent. sodium cyanide. One morning after half an hour's work, he was observed to stagger away from his job, he shortly became unconscious and died.

Air Sampled at the Process of Case Hardening.—Five samples of air were taken with a Greenburg-Smith Impinger Apparatus near the case-hardening plant at Eveleigh Workshops on 28th January, 1937. The liquids through which the air passed were submitted for analysis to the Government Analyst and he reported as follows :—

"The amount of cyanide (calculated as hydrocyanic acid) in any of the samples does not exceed 0·1 mg."

The samples were collected in the following positions :—

(1) 127 litres. At process near man working cyanide pot.
(2) 60 litres. Mouth of man putting red-hot crate into water trough.
(3) 121 litres. Leeward side of pot, transferring from preheater to pot.
(4) 68 litres. Leeward side removing crate from cyanide pot.
(5) 71 litres. Leeward side, putting red-hot crate into water trough.

Post-mortem Examination.—From a post-mortem examination, it was concluded that death had taken place from cyanide poisoning and the stomach and other organs were sent to the Government Analyst who reported the following findings :—

	Weight.	NaCN content.
		grains.
Stomach	11 oz.	4·0
Spleen, kidneys and part of liver	3½ lbs.	2·3
Blood	9 fl. oz.	0·16

From the failure to find cyanide in any toxic amount in the air sampled around the cyanide pot and the large amount of cyanide found in the stomach of the deceased, it was concluded that this was a case of suicide.

EFFECTS OF EXPOSURE TO EXHAUST FUMES FROM DIESEL BUSES.

On 19th August, 1937, experiments were carried out at the Woolloomooloo Depot of the Transport Department to determine the danger of exposure to the exhaust fumes from a Diesel bus. Guinea-pigs were exposed to the fumes in such a way that very little fresh air, if any, was supplied. The experiments were carried out in the following order, a separate guinea-pig being used in each case :—

1. Engine started up cold and idling; exposure, 18 minutes.
2. Engine running at half throttle; exposure, 15 minutes.
3. Engine running at full throttle; exposure, 2 minutes.
   (It was found impossible to continue the experiment for longer than this period.)

These three guinea-pigs were not obviously affected by the fumes.

In each of these experiments, the animal's blood was examined for carbon monoxide as soon as it was removed from exposure, but no carbon monoxide was found.

A fourth pig was exposed under the same conditions to the exhaust fumes of a motor-car using petrol; the pig collapsed after 30 seconds, was removed from the cage after 2 minutes; its blood contained carbon monoxide to the extent of 45 per cent. of saturation.

These results indicate that under the conditions of the experiment, the exhaust fumes from Diesel buses contain very little carbon monoxide.

It was considered, however, that when the bus was running, especially under load, the fumes might contain dangerous concentrations of carbon monoxide. On 24th August, 1937, experiments were carried out to determine the effect of the exhaust fumes when climbing the Spit Hill. A flexible extension hose was connected to the exhaust pipe of the bus and led to a cage in which guinea-pigs were placed. This method was similar to that used in the previous experiments (19–8–37), but in the earlier experiments, the fumes were cooled by passing the hose through a water trough, whereas in these experiments this was found impracticable, and the temperature in the cage could only be reduced by by-passing some of the exhaust fumes.

Experiment 1.—After idling for 75 seconds, the climb was commenced, and 45 seconds later the guinea-pig collapsed. It took 135 seconds to climb the hill; the guinea-pig was dead, probably due to heat of exhaust fumes. Its blood contained 10 per cent. of carbon monoxide.

Experiment 2.—The conditions were similar to those in experiment 1, but some of the exhaust fumes were by-passed to reduce the temperature in the cage. After idling for a few seconds, the climb was commenced, and took 3½ minutes. The guinea-pig was uncomfortable, and staggered about the cage. Its blood contained 20 per cent. of carbon monoxide.

Experiment 3.—This experiment was similar to Experiment 2. Idling time, 30 seconds; climb, 3 minutes 45 seconds; the pig when taken out was unconscious, but recovered. Its blood contained 25 per cent. of carbon monoxide.

Experiment 4.—To determine the effect when running without the engine under load, a run lasting 15 minutes 45 seconds was made on practically level ground. One guinea-pig was removed after 4 minutes 15 seconds (the same time of exposure as in Experiment 3). The pig was apparently not affected by the fumes, and no carbon monoxide was detected in its blood. The other pig was exposed for 15 minutes 45 seconds, was still active when removed, and its blood showed no signs of carbon monoxide.

The results of both sets of experiments may be summarised as follows :—

> When idling or running on level ground, the amount of carbon monoxide produced is too small to be detected in the blood of guinea-pigs when exposed for from 2 minutes to 18 minutes. When running under load (that is up hill) the blood of guinea-pigs, which had been exposed to exhaust fumes for from 45 seconds to 3 minutes 45 seconds, contained from 10 per cent. to 25 per cent. of carbon monoxide.
>
> In view of the results obtained in the second series of experiments, it was decided to expose guinea-pigs for 8 hours in the driver's compartment of two buses. This was carried out on 8th September, 1937. The first pig was carried on the Rose Bay North run, and the second pig on the Watson's Bay run. Their blood was examined for carbon monoxide within a few minutes of removal from the bus, but none was detected.

Conclusions.—These experiments indicate that carbon monoxide is only found in the exhaust fumes of Diesel buses when the engine is running under load, and this occurs, I am informed, when a bus is running up-hill or when a bus is getting under weigh after stopping. Apparently this depends on the fact that only on these occasions is enough oil injected into the compressing chamber to use up the available oxygen. This condition is the reverse of that found in petrol engines—here the generation of carbon monoxide is greatest when idling.

The carbon monoxide generated by Diesel buses under the worst conditions is less than one-tenth of that generated by petrol-drawn vehicles under these conditions. The cabin of the Diesel bus, if it received the greater part of the fumes of an exhaust, is only likely, in my opinion, to cause a hazard to health from carbon monoxide poisoning when running up-hill and repeated stopping and starting, and at no time will this hazard approximate that known to exist in petrol-driven buses.

ANTHRAX.

One death from anthrax occurred in the wool industry. The man was employed sorting sheep skins. According to the police report, he complained of headache six days before his death, and left work two days before his death when he had a swelling under the left arm. His physician suspected anthrax, which was proved by post-mortem examination. The Agriculture Department was informed, and enforced the isolation and destruction of the skins coming from the district suspected of giving rise to this case.

It was recommended that the Dead Wool Regulations be enforced in their entirety, and that fellmongering and working in sheep skins be brought under them.

THE FELT HAT INDUSTRY.

Following a complaint of a dust nuisance in a hat factory, three factories making felt hats were visited in order to compare the hygiene of the industry generally. Two of the factories were quite good from a hygienic point of view, but the third, the one from which the complaint arose, left much to be desired.

In this factory, in the " shearing " process the exhaust attached to the machines was not sufficient to remove the dust and fluff, and much was in the air and lying around the floor and rafters. The general lighting and ventilation of the room was unsatisfactory.

The " cutting " process was the worst in the factory. The room in which this was carried out had no ventilation apart from the stairway leading to it. The windows were kept shut owing to the breeze blowing the fur about. The machines for the cutting process were fitted with exhaust ventilation, but so designed that a large percentage of the fluff, dust, and a little fur still found its way into the workroom. This fluff had settled on rafters, window sills, machines not in use, etc., and had accumulated on the floor in considerable quantities. Moreover, stacks of carroted skins were placed on the floor in one corner of this room, so the whole process was a potential mercury poisoning hazard. No signs nor symptoms of mercury poisoning were evident in the men engaged in the process.

The general standard of hygiene and illumination of the rest of the factory were not considered satisfactory.

VENTILATION.

Investigations have been made into the ventilation of theatres, cinemas, public halls, shops, garages, and other places.

The standard of ventilation in theatres, cinemas, and public halls has improved over the past few years, and in the past year mechanical plants have been installed in a number of cinemas in the suburbs and one in the country.

Several city theatres are air-conditioned, a number of city and suburban cinemas have heating units for winter. In both cases, some of the air is recirculated. We approve of this practice only when a reasonable amount of outdoor air, about 15 cubic feet per person per minute, is provided.

It is recommended that the regulations under the Theatres and Public Halls Act be amended to allow recirculation under approved conditions, to require an air change in all theatres and public halls based on the number of seats or people present and according to the outside conditions, and to require an air movement which will depend upon the temperature and humidity indoors. At the same time, consideration might be given to the practice of heating by so-called convection heaters, in which the products of combustion are allowed to escape into the theatre.

Experience has shown that the mechanical ventilation systems that have been installed are capable of changing the air of a building a number of times each hour, but are unable to produce air movements much above 100 feet per minute, and the average air movement is much lower than 100 feet per minute. For this reason theatres and other public buildings often appear poorly ventilated in the warm humid weather, and complaints are made on the grounds that the fresh air supply is deficient, but the discomfort is due not to the poor air change, but to the physical state of the air. When the humidity is under 7 grains of water vapour per cubic foot, the air movement is mostly great enough to produce reasonable conditions, but when higher than 7 grains, uncomfortable conditions are often found. Wall fans are sometimes used to minimise the discomfort.

Air-conditioned theatres are more comfortable during the period that the high humidities persist, owing to the lower temperatures provided and the lower air movements required to produce comfortable conditions. The fresh air supply, however, is lower than in other mechanically ventilated theatres.

In the humid weather the conditions found in naturally ventilated theatres and crowded shops, especially those in basements, are more unsatisfactory than those mechanically ventilated, due to a lower air change and smaller air movements, and the opinion is expressed that mechanical ventilation should be provided for all buildings of this type, that is, theatres, cinemas, and certain classes of shops.

At the request of the Chief Secretary's Department, a number of investigations were made concerning the ventilation of theatres and public halls, including the measurement of the mechanical ventilation systems of five theatres in Sydney and suburbs, and the Newcastle Town Hall. The air change provided for these buildings varied from 9·7 to twelve times per hour, equal to an average air supply of 22 cubic feet per seat per minute. The observed air movements averaged about 60 feet per minute.

The following table shows the air supply and air change, and air movements found in the six halls investigated :—

Theatre.	Maximum Capacity of Ventilating System (cubic feet per minute).	Air Change.		Air Movement (feet per minute).		
		Times (hour).	Cubic feet per Minute per Seat.	Minimum.	Maximum.	Mean.
King's, Mosman	28,744	10	22	37	116	82
National, Balmain	40,000	9·7	23	48	70	56
King's, Marrickville	23,350	10·8	21	...	...	52
King's, Ashfield	24,966	10·4	22	...	...	...
Variety, Sydney	6,600	12	22	25	94	60
Town Hall, Newcastle	36,000	12	...	43	126	67

Following a complaint that the ventilation of a mechanically ventilated theatre was unsatisfactory, it was recommended that wall fans be installed to increase the air movement in certain positions. An officer of this division determined the air movements in the theatre and indicated the best positions for fans, six of which have been installed. This action has resulted in improved conditions.

On the recommendation of this division, instructions were issued to provide a mechanical plant for a suburban cinema. A plant has been installed, and the ventilation is now considered satisfactory.

The supper-room at Newcastle Town Hall, which has a volume of 57,000 cubic feet, and is frequently used for meetings, dances, etc., was inspected on 19th July, 1937, and the ventilation found unsatisfactory. It relies on natural ventilation, is exposed to the outside air on one side only, and owing to its position, efficient through ventilation is not possible. The indoor temperature was 12 degrees Fahrenheit above outside, and the carbon dioxide reading eighteen parts per 10,000. The calculated air change was 3·5 times per hour. Air samples collected by the Medical Officer of Health, Newcastle, on 8th September, 1937, contained fourteen parts of carbon dioxide per 10,000 parts of air, and the calculated air change was 1·5 times per hour. It was recommended that the ventilation be improved by providing a mechanical plant, or by increasing the natural ventilation.

At the request of the Town Clerk, Sydney, two inspections were made of a large basement garage used for parking cars. The carbon monoxide concentration between 5·0 and 6·0 p.m. averaged 100 parts per million when the mechanical ventilating system was running. This figure is considered by authorities as the maximum allowable for continuous exposure. As the natural ventilation was poor, it was recommended that the mechanical plant be kept running during working hours and at full capacity during peak hours. During the slack period it could be run at reduced speed.

Following a recommendation from this Division, the City Health Officer issued instructions for the mechanical ventilation of sixty-five shops in Her Majesty's Arcade. Plans and specifications of the proposed scheme were examined, and the opinion given that it would prove satisfactory. Exhaust ventilation equal to an average of 400 c.f.m. per shop will be provided.

Other inquiries were made into the ventilation of a suburban shop, the ventilation of a railway goods shed in reference to the danger from fumes from motor vehicles, and the means of heating provided for a suburban cinema. Reports indicating the necessary action were submitted.

SECTION II.

Metropolitan Combined Sanitary Districts of Sydney.

Report of the Metropolitan Medical Officer of Health for the Year 1937.

J. Grahame Drew, M.A., M.B., B.Ch. (Camb.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H., D.T.M., D.T.H. (Syd.), F.R.San.I.

To the Director-General of Public Health.

Sir,

I have the honour to present my report on the health conditions of the Metropolitan Area of Sydney for the year 1937.

The Metropolitan Area includes the City of Sydney and fifty-three municipalities with Warringah and Hornsby Shires. In previous reports it has been customary to publish a section relating to "Causes of Deaths" which had occurred in the Metropolis, thus excluding information under this heading for the following municipalities and shires:—Cabramatta and Canley Vale, Fairfield, Holroyd (Guildford and Wentworth wards), Hornsby Shire, Ingleburn, Liverpool, Warringah Shire and Port Jackson.

In this report statistics relating to the two divisions are included with the intention in future reports of including them under one head, namely, the *Metropolitan Area.*

Population.—At the census of 30th June, 1933, the population of the Metropolitan Area was 1,304,417, of which the City of Sydney contributed 88,308. The Government Statistician's estimate of the population at 31st December, 1937, was 1,354,450, and the mean population for the year 1937, 1,346,110.

Births.—Showing an increase of 502 births over 1936, 19,539 live births were registered in the Metropolitan Area in 1937, equivalent to a rate of 14·52 per 1,000 of the population, an increase of ·23 per 1,000 of the population on the rate for 1936.

Male births numbered 9,987 and females 9,552, being a ratio of 105 males to 100 females. There were 907 ex-nuptial births, equivalent to 4·64 per cent. of the total births or ·67 per 1,000 of the population.

Births (Still).—Six hundred and twenty-three still births were registered in 1937, equivalent to 3·09 per cent. of all births (live and still), and representing a rate of ·46 per 1,000 of the population.

Deaths.—There were 13,915 deaths registered in 1937, giving a rate of 10·34 per 1,000 of the population as opposed to 13,210 deaths in 1936, which gave a rate of 9·92 per 1,000 of the population.

Infant Mortality.—Seven hundred and forty-eight deaths of children under 1 year of age were recorded, equivalent to a rate of 38·28 per 1,000 live births as opposed to a rate of 41·60 for 1936. This represents a fall of 8 per cent. on the rate recorded for 1936.

Maternal Mortality.—There were 102 deaths due to puerperal causes, including 17 from criminal abortion. The rate per 1,000 live births on this total is 5·12, but if criminal abortion is excluded, the rate is only 4·35. Eighteen deaths were due to puerperal septicaemia (including post-abortive sepsis).

Administration.—Understaffing of certain of the Municipal Health Departments is still very obvious, but I am hopeful that this unsatisfactory condition of affairs will be gradually overcome as councils begin to realise that the health inspector's duties are associated not only with the cleansing of his area, but also with the important duty of taking a more intimate interest in the control of epidemic diseases. To permit of this specialised work being undertaken in an efficient manner it is essential that the health staff should be adequate, so that routine duties are not neglected or delayed.

To enable Metropolitan Inspectors to keep abreast of modern advances in preventive medicine, afternoon conferences take place from time to time when new ideas, in addition to other points relating to their work, are fully discussed.

On the inauguration of the Government's new Diphtheria Immunization Campaign, I visited Metropolitan Councils and explained the scheme and principles of immunization. It is pleasing to note that the majority of Metropolitan Councils have embraced the scheme—notable exceptions being Petersham, Mascot, Darlington, and Annandale, areas, unfortunately, where immunization is urgently required. Leichhardt, I am glad to state, after considerable procrastination, decided to fall into line.

As a result of the first effort, completed municipal reports received show that 26,000 children have been immunized. Many of the councils are still proceeding with their first attempt, while several are planning a second, so that those who prefer to "wait and see" may be brought in.

CAUSES OF DEATH IN THE METROPOLIS.

Diseases of the Heart.—Three thousand six hundred and ninety-four deaths were recorded in this section, representing a rate of 290·5 per 100,000, and thus again heading the list of "Causes of Death," as in 1936. Two thousand one hundred and ten of these were in males, and 1,584 in females. Eighteen males and 31 females were under 25 years of age; 39 males and 36 females from 25 to 39 years; 968 males and 568 females from 40 to 69 years; and 1,084 males and 991 females were 70 years and over. The age was not stated for one male.

Rheumatism.—Acute and chronic rheumatism, chronic arthritis, etc., accounted for 78 deaths, 12 of these were in persons under 20 years of age; 11 were from 20 to 39 years; 32 from 40 to 69 years; and 23 from 70 years onwards.

Diseases of the Coronary Arteries.—Four hundred and sixty males and 216 females died from diseases of the coronary arteries, and 49 males and 36 females were notified as dying from angina pectoris.

Syphilis caused the deaths of 23 males and 6 females, respectively. Of these, 1 male and 2 females were under one year of age.

Alcoholism.—Five men and 4 women died from alcoholism (acute and chronic).

Cancer.—The number of deaths from cancer continues to rise, 1,604 deaths (788 males and 816 females) having been recorded for 1937. The increase is shown in an additional 84 male deaths, whereas deaths in females declined by 31.

At the recent Cancer Conference in Sydney it was clearly demonstrated that much could be done by modern methods to control this disease, if sufferers were to seek skilled medical attention early.

Bright's Disease (Acute and Chronic).—Caused 786 deaths (417 males and 369 females).

Pneumonia.—With third place, caused 857 deaths (505 males and 352 females). Three hundred and forty-three deaths were due to broncho-pneumonia; 374 to lobar pneumonia; 138 to pneumonia (unspecified) and 2 to capillary bronchitis.

Tuberculosis.—Six hundred and thirty-nine deaths occurred, of which 582 were due to tuberculosis of the lungs, 24 to tubercular meningitis, and 33 to other tubercular diseases.

Influenza.—Sixty-one deaths were recorded, of which 31 showed respiratory complications.

Diarrhoea and Enteritis.—Caused 83 deaths.

Deaths from Accidents.—Six hundred and twenty-one persons (459 males and 162 females) were fatally injured, and increase of 58 on the figures for 1936, and 117 on 1935.

Accidents from railways and tramways caused 50 deaths, of which 10 were women; motor vehicles, 264 (212 males and 52 females); other land transport accidents, 25 (18 males and 7 females).

It is to be hoped that the new traffic regulations, by which a speed limit of 30 miles per hour is enforced in built-up areas, will show a beneficial influence by reducing the ever-mounting number of accidents.

DEATHS from Epidemic Diseases, 1937.

Statistical–Metropolis and Metropolitan Combined Sanitary District.

Epidemic Disease.	Number of Deaths.		Total Deaths, Metropolitan Combined Sanitary District.	Number of Notified Cases.
	Statistical–Metropolis.	Extra–Metropolitan.		
Typhus fever	...	...	...	2
Typhoid and paratyphoid	4	...	4	33
Measles	2	...	2	...
Scarlet fever	5	1	6	1,525
Whooping cough	31	...	31	...
Diphtheria	81	2	83	2,366
Influenza—				
With respiratory complications	30	4	34	...
Without respiratory complications	22	5	27	...
Erysipelas	10	...	10	...
Acute poliomyelitis, polioencephalitis—				
Notifiable forms	2	...	2	48
Non-notifiable forms	1	...	1	...
Lethargic encephalitis—				
Notifiable forms	2	...	2	3
Non-notifiable forms	2	...	2	...
Epidemic cerebrospinal meningitis	3	...	3	7
Other epidemic diseases	14	1	15	...
Diarrhoea and enteritis	81	2	83	...
Criminal abortion	17	...	17	...
Puerperal septicaemia, including post-abortive septicaemia	17	1	18	...
Other puerperal diseases	66	1	67	...

EPIDEMIC DISEASES.

Diphtheria.—In 1937 there occurred an appreciable decline in diphtheria, 2,366 cases having been reported (3,189 in 1936). Deaths numbered 83.

The renewed campaign in favour of immunization will doubtless be reflected in a further reduction in the number of notifications of cases and deaths. The Government scheme is a very generous one. In effect, it requests municipal councils to exercise their privileges for the protection of the public health at no cost to themselves. This is brought about by the council utilising its health administration in promoting the campaign and charging a fee of 4s. per child immunized or 8s. per family. If the parent cannot afford the fee, then the injections are given free If council shows a loss, then it is recouped by the Government. Anatoxin is supplied free.

In one or two municipalities, claims were put forward in favour of the "One-shot Method" as opposed to three doses of antatoxin. This was regrettable, as it only served to confuse the minds of the people. It has been clearly explained that the Department is not opposed *in principle* to a single-injection method of equal efficacy to the three-injection methods, but it is considered that such methods have not yet been proved to be of such effectiveness as would warrant substitution for the antatoxin method recommended by this Department.

Scarlet Fever.—A reduction in the number of notifications was manifest; 1,525 cases were notified (2,698 in 1936).

Six deaths were reported.

The disease continues to run a mild course.

Typhoid Fever.—Thirty-three cases were reported, as against 53 in 1936. Fifteen of these occurred early in the year in Auburn as part of the outbreak which occurred there in December, 1936. Investigation of cases and contacts with laboratory examination was continued, and although all contact reports were negative, nevertheless, some useful evidence was collected regarding old cases of several years standing. Careful instructions regarding home hygiene were given in every case, and doubtless helped to bring the outbreak to an end.

There is room, however, for considerable improvement in the drainage of this area, and council has been advised to replace the insanitary, unsightly, mosquito-infested spade-cut channels by concrete gutters without delay.

Typhus Fever (*Brill's Disease*).—Two cases were reported in 1937. Both patients were employees of a large store in the city. Two months elapsed between the occurrence of each case.

The store was thoroughly inspected for the presence of rats, when abundant evidence was found regarding their presence. Arrangements were made with the City Health Officer to keep the store under constant observation.

Anterior Poliomyelitis.—Forty-eight cases of anterior poliomyelitis were reported from the Metropolitan Area in 1937. Two deaths occurred early in 1937, whereas seven of the nine cases reported in 1936, died. The disease, in the main, has occurred in mild form, and has not shown the severity which has characterised the concurrent Victorian outbreak.

In the early part of the year the cases occurred spasmodically, and at considerable distances from each other:—January, 1; March, 1; April, 1; May, 2; June, 2; July, 1; September, 1; October, 3; November 11; December, 25.

To enable immediate action to be taken, councils were requested to notify the Metropolitan Medical Officer of Health by telephone immediately knowledge was received of the occurrence of a case or suspected case. Hospitals were also circularized to send advice by telephone on diagnosis of a definite case. By such means much time was saved, as on receipt of the message a State inspector was despatched, to round up contacts and place them in isolation for twenty-one days, and also to make an endeavour to ascertain the source from which the infection was spread. It is significant to note that one of the early September cases gave a history of having contact with an aunt and cousin who had arrived from Melbourne. In not a few cases the probable source of the disease was traced to Melbourne contacts.

These findings are supported by the Queensland epidemic of 1931–32, where it was observed that the disease frequently broke out in new territory shortly after the arrival of persons from an infected area.

By detailing a special officer for this investigation it was possible, where the cases were few and far between, to follow up contacts throughout the Metropolitan Area. Later it was necessary to revert to the normal system wherein each municipality carries out the duties of investigation.

The government, realising the value of restricting as far as practicable movement of persons from infected to uninfected areas, *e.g.*, from Victoria to New South Wales, issued a proclamation under the authority of the Public Health (Amendment) Act, 1937, in which the State of Victoria was declared to be infected with anterior poliomyelitis, and as a consequence imposed certain restrictions on the entry of children under the age of 16 years from Victoria into New South Wales, viz.:—

1. That no child under the age of 16 years residing or being in the State of Victoria shall enter the State of New South Wales either by sea-going vessel, land travel, or vessel engaged in navigation by air or otherwise howsoever, unless on such entry—
   - (*a*) such child is in possession of a certificate signed by a medical practitioner, the medical officer of any school, a clergyman, or an officer of police of or above the rank of sergeant, or alternatively a statutory declaration (duly made according to the law of the State of Victoria in that behalf) by a parent or person in charge of such child to the effect that during the period of twenty-one days next preceding the day of departure from the State of Victoria the said child has neither been in contact with, nor exposed to infection from any person suffering from the said disease, nor attended a school which has been closed on account of that disease; and
   - (*b*) such certificate or statutory declaration be produced and handed to the person in charge of the sea-going vessel (where the entry is made thereby), or to the person in charge of the vessel engaged in navigation by air (where the entry is made thereby), or to a servant of the Commissioner for Railways of New South Wales (where the entry is made by railway train), or (where entry is made by road travel or otherwise howsoever) to the officer in charge of the police station in New South Wales nearest to the point of entry into New South Wales, together with in each and every case a statement setting forth the proposed place of residence of the said child in New South Wales and the duration thereof; and

2. That no person in charge of any sea-going vessel, or vessel engaged in navigation by air, or railway train or service coach or any other form of conveyance shall permit the entry into New South Wales of any child under the age of 16 years residing or being in the State of Victoria unless such certificate or statutory declaration and statement is produced and given into his charge by or on behalf of such child; and
3. That the person so receiving the certificate or statutory declaration and statement as aforesaid in any case where the child enters New South Wales by sea-going vessel or vessel engaged in navigation by air or by railway train shall within twenty-four hours forward such documents by post to the Secretary of the Board of Health, Sydney, and the person so receiving such documents in any case where the child enters New South Wales by any other form of conveyance than as aforesaid shall immediately on the entry hand the same to the Officer-in-Charge of the police station in New South Wales nearest to the point of entry into New South Wales, and every police officer receiving any of such documents shall within twenty-four hours forward them by post to the secretary of the Board of Health, Sydney.

To put these directions into effect, the following procedure was adopted in the Metropolitan Area :—

On arrival of a child in Sydney from Victoria, the child's home was visited by a Health Inspector for the respective municipality which had been notified from the Central Department, and instructions were issued regarding isolation for twenty-one days.

Ships arriving from Victorian ports were met by a State Inspector, who examined certificates and issued necessary instructions as to isolation. In a few instances it was found necessary to detain passengers on board, and not allow them to land. It is with pleasure that I report that the Shipping Companies co-operated very efficiently, and consequently excellent relations were established and maintained. Many of the companies concerned expressed appreciation of the services rendered by my inspector, Mr. Knapp, who endeavoured to facilitate the rapid disembarkation of passengers consistent with the operation of the new ordinances.

Certificates collected by the Border Police Patrol and the New South Wales Government Railways officials were forwarded direct to the Department of Health.

From a close observance of the occurence of the December and later cases, which still preserved the noticeable lack of continuity in each respective locality, there having appeared no concentration of cases so noticeable in the Melbourne epidemic, I am of the opinion that the meticulous and laborious investigation of early contacts of cases with their isolation did much to space out subsequent cases, and consequently enabled the population to gradually build up a necessary degree of immunity.

Infectious Disease Suspects.—Time and again the control of infectious disease is seriously hampered by the absence of legislation authorising the Medical Officer of Health to make a necessary investigation, and later put into operation the approved safeguards in the case of a person who, by reason of evidence collected, is suspected on strong grounds of suffering from, or carrying and consequently spreading to the danger of others, an infectious disease. It is to be noted that many persons may suffer from an infectious disease in the mildest degree with a complete absence of the cardinal symptoms of the disease, or at least with very few of them, but are, nevertheless, all powerful in its spread. It is suggested, therefore, that the Medical Officer of Health should be empowered in such instances to take the necessary steps to safeguard the public health.

Holiday Camps.—Each year sees the arrival of a greater influx of camping enthusiasts, who realise that camping can be an ideal way of spending a holiday with resulting improvement in health. But, if this is to be so, camps must be maintained in a clean and sanitary manner.

Following a series of inspections of some of these camps around the metropolis, I am convinced that the time is opportune for the introduction of Regulations for the efficient sanitary control of camps. The need of such regulations is especially noticeable in private camps, which are often deficient in adequate water supplies, sanitary conveniences, and cleansing services. Councils also must realise that where fees are charged services must be rendered in return. This may mean an increase in the personnel of the Municipal Health Department, but the result will be well worth the early addition to council's financial outgoings; and in the end the better service will pay for itself, with consequent enhancement of the popularity of the district, with resultant advantage financially.

The Queensland Department of Health in 1934 gazetted a series of camping regulations, which have since proved very successful in raising the health standards of camps in that State.

In New South Wales the excellent conditions appertaining to camps under discipline are clearly exemplified in those camps under the jurisdiction of the Department of Works and Local Government, and inspected regularly by officers of the Department of Health. At these, careful attention is given to the disposal of nightsoil, incineration of camp wastes, water supplies, and general cleanliness.

Garbage Removal Services.—I am not satisfied with the standard of these services. When every town of any size in Great Britain has long since disposed of open wagons, it is high time that the second "white city" of the British Empire had introduced modern garbage removal waggons, in place of those at present in existence, which, malodorous and piled high with all manner of wastes, in a high wind may cover the unlucky passerby with some of their contents if it so happens that the process of filling has not been completed and the covering tarpaulin firmly fixed down.

There is room too for considerable improvement in the disposal of garbage. Where tipping and filling in of waste land is the method of choice, this should take place with due regard to the principle of "controlled-tipping," which primarly calls for a daily covering with 6 inches of clean earth of the face of the tip, which should not be deeper than 6 feet or too broad for ease of control. By such means the depot can be kept free from offensive odours, and much useful filling in of depressions may take place without annoyance to the ratepayers in the vicinity.

Where tipping cannot take place, then incineration should be used. As a matter of fact, for cities it is the first method of choice. It is a well-known fact that if these incinerators are efficiently controlled no nuisance need be caused. There is no necessity for every Metropolitan Council to build one, but groups of councils should get together and have their scavenging districts zoned for the construction of incinerators at strategic points, with due regard to ease of feeding, haulage expense, and suitability of site.

Sanitary Pansteads.—Where the sewer has not yet been constructed these, of necessity, are still in existence. Too aften has it been noted that these do not adhere to any regulation pattern, and consequently are not flyproof. As a result, by the time the pans reach the sanitary depot they are heavily infested with fly-eggs and maggots, which, in spite of burial, hatch out into adult flies, which force their way up to the surface of the trench, from whence they return to the homes of the district, there to carry on in greater magnitude their life history.

Much of this unsatisfactory state of affairs is brought about by the fact that there are not sufficient health inspectors in any district to be spared from their every day routine duties to make house-to-house inspections, which, after all, should form one of the most important of the inspectors' regular duties.

Drainage Works.—In the report for the Metropolitan Area for 1936 attention was directed to Haslem's Creek. After many years of reports and various endeavours, a great step was taken by the Department of Works and Local Government when the Minister decided to shoulder the costs and responsibility of having the creek drained. As a result, the construction of a huge concrete channel, which will cost at least £25,000, has been approved and commenced.

This channel will efficiently drain the creek, thereby ridding the Lidcombe and Auburn municipalities of a foul, stagnating swamp, a menace to the health and amenities of the neighbourhood. At the same time, the myriads of *Culex Fatigans*, which yearly breed there, will be conspicuous by their absence.

Mosquitoes.—In many municipalities there is still much to be done towards the elimination of the pest. Surveys of septic tanks must be continued to ensure that they are screened. Spade-cut channels must be swept regularly and kept free from stagnating drainage, and swamps must be drained by channeling, filling-in, or by the formation of ornamental lakes. The continuance of stocking ponds with fish is to be encouraged. Supplies may be received on application to the Department of Health.

Where the sewer is available, councils must take the necessary action to force house-owners to connect their household drainage thereto.

Rats.—A problem of the first magnitude continues to exist in Sydney in regard to its rat population. Legislation is in existence for the efficient control of these vermin, and as staffs of health departments are generally small, the duty of keeping premises free from rats devolves as a first responsibility on the owner or occupier of premises, private or for trade uses.

Attention to cleanliness, such as is represented by the efficient control of food wastes, together with ratproof buildings (" building the rat out "), will go far towards controlling the pest.

A recent addition to our armoury, which bids fair to showing a high degree of usefulness, is the portable gas gun, by which the operator can eject a small cloud of cyanogas on to the rat with deadly and immediate results. Of necessity, the operation must be controlled by especially trained experts.

On the 16th February, 1937, a conference was held at the Town Hall, Sydney, to discuss rat prevention measures on the harbour front of the City of Sydney, and was attended by representatives of the Department of Health, Maritime Services Board, Metropolitan Water, Sewerage, and Drainage Board, and the City Council.

The Conference recommended :—

1. That the Maritime Services Board of New South Wales should increase the number of their rat gangs.
2. That the Maritime Services Board should continue with a main policy spread over a large number of years, to build new wharves brought up to modern standards for rat prevention in place of patching up the old wharves as they fall into disuse.
3. That the City Council consider increasing the number of their rat gangs so that expert services in trapping and poisoning might be made available to the citizens, and at the same time follow a vigorous policy of ratproofing food premises; and that the lessees of wharves be compelled to turn over their foodstuffs frequently in order to prevent food and harbourage for rats being maintained on the wharves.

To make these recommendations a success, it will be necessary for metropolitan councils, especially those adjacent to Sydney, to take more active measures in promoting the respective municipal rat control operations, and not be content with a mere semblance of this important duty as represented by the handing out of free poison alone.

Oysters.—The cultivation of the oyster is an important industry in New South Wales, and the resultant product is one of high degree, difficult to excel in any part of the world; but greater care must be taken where oysters are taken from the shell and put up in bottles. This process must be undertaken with meticulous regard for absolute cleanliness. Otherwise, there is always the danger that the oyster may be regarded with suspicion, when really it is the bottler himself or his utensils which are to blame. This has been proved by bacteriological examination of the oyster in its natural and bottled state—the former returning results demonstrating freedom from bacterial contamination, whereas, in the latter, a high count has been revealed.

Milk—Metropolitan Dairies.—Further investigation into the location of Metropolitan Dairies during 1937 confirms the opinion expressed in the Annual Report for 1936 that such dairies should be gradually moved further out from the closely settled areas to districts where there is abundant green pasturage. Such a move can only redound to the advantage of the dairymen, who will receive enhanced values for his land for building purposes, and also to the consumer in a milk of richer quality, as it has been shown that cows fed on fresh green feed as opposed to hand feeding excrete a higher percentage of vitamins in the milk.

In view of the fact, with which reliable observers are in agreement, that Australians do not have teeth of the first degree, it is essential we leave no stone unturned to supply to our expectant mothers and young children the highest quality in foods, which help in the building of a healthy frame.

It is encouraging to note that the Chairman and members of the newly-constituted Metropolitan Milk Board associate themselves with this point of view, and are taking every action calculated to place the Metropolitan Dairies on a higher standard than that which has been obtaining even hithertofore.

Furthermore, as previously pointed out, pasteurisation is the method of choice for preparing milk for human consumption in cities, and recent scientific investigation has clearly shown that milk which has been pasteurised compares equally in food value with raw milk, while at the same time it has the added advantage of having been rendered safe for human consumption.

Housing.—The new Housing Act represents a step in the advance towards the production of a higher standard of housing for a certain section of our people, but there are still many difficulties to be overcome.

In Erskineville every endeavour has been made by personal contact with certain of the municipal councillors to obtain their support for the specific scheme for that area. Here there can be no question of raising the controversy of flat *versus* cottage, as the scientifically built flat with ample space for recreational purposes around it is the solution of the housing question for the closely-settled area.

Frequent conferences have taken place with the Secretary of the Housing Board, who has been given our hearty support and trained criticism when necessary. There is still much to be done, however, and until the necessary machinery is set in motion to enable the Medical Officer of Health and his staff to prescribe an area for demolition and rebuilding as is done in England, in addition to the issuing of closing or demolition certificates for individual houses the ideal will not have been attained.

At present, also, considerable difficulty exists in putting into effect the certificate of the Medical Officer of Health regarding the demolition of ruinous and dangerous buildings where the occupant by reason of senility or low standard of intelligence refuses to get out. Under such circumstances, I am of the opinion that it would be advantageous not only to the neighbours around the ruinous or insanitary building, but also to the occupant if power were given to the Medical Officer of Health to authorise the removal of the occupant on humane grounds to some benevolent institution such as are maintained by the State, provided there is no other place to go to.

Swimming Baths.—Regular inspection of metropolitan swimming baths has been undertaken during the year, and samples of the waters have been taken for chemical and bacteriological examination. With the exception of the Domain Baths, supervised by the City Council, these have demonstrated a satisfactory standard of purity.

Regarding the Domain Baths, laboratory examinations of the water have not been good, *B. coli* having been found regularly, often in high concentration. Pollution of the baths, which are tidal, is probably caused by discharge of sewage from shipping in the close vicinity, and because of the fact that Woolloomooloo Bay, with little tidal scour, receives the surface drainage of the very closely settled area of Woolloomooloo, Kings Cross, and Darlinghurst in parts.

Although it is impossible to definitely state at any one time that the water is actually dangerous to swim in, as this would necessitate frequent daily bacteriological examinations of the water, as has been pointed out in the recent serious Croydon (England) typhoid epidemic, yet it is potentially so, and the City Council has been warned accordingly. The provision of an Olympic Pool in this location such as exists at North Sydney would add considerably to the amenities of the neighbourhood.

Health Week.—A successful Health Week took place in Sydney from 29th October to 7th November, 1937. Every endeavour was made to carry on the work so ably supported and directed by my predecessor, the late Lieut.-Col. Purdy, D.S.O.

In conclusion, Sir, I would be glad to take this opportunity of tendering my thanks to my colleagues of the State Department of Health and to the Health Officers of the Metropolitan Municipalities who, by their excellent co-operation, have rendered the work of the Metropolitan Division so pleasant and efficient.

J. GRAHAME DREW.

WORK PERFORMED BY OFFICERS OF PURE FOOD BRANCH IN THE METROPOLITAN AREA DURING 1937.

Inspections of food premises (butchers, smallgoods, poulterers, bakeries, restaurants, confectioners, aerated water factories, etc.)	5,728
Number of milk samples taken	15,013
Number of meat and other food samples	9,562
Legal Proceedings—	
Prosecutions (adulterated food and other breaches of the Pure Food Act Regulations)	341
Fines and costs, £910.	

WORK PERFORMED BY OFFICERS OF THE SANITARY BRANCH IN THE METROPOLITAN AREA DURING 1937.

Inspection of buildings	87
Closing order certificates	8
Inspection of—	
Private hospitals	1
State schools	3
Private schools	2
Noxious trade premises	400
Barbers' shops	4
Recreation grounds	6
Cemeteries	3
Camps (unemployed works)	8
,, (tourist)	7
Night soil depots	74
Disposal of nightsoil	6
Garbage depots and garbage disposal	103
Sewerage treatment works	1
,, ,, plans	1
Private water supplies	7
Incinerators	22
Swimming pools	5
Approvals—	
Nightsoil depots	1
Garbage depots	2
Methods of disposal of nightsoil	4
Scavenging districts	1
Description of boundaries	1
Septic tanks—	
Inspections	239
Plans	273
Sites	300
Chemical closets	3
Investigation of—	
Cases of infectious disease	122
Anterior poliomyelitis (special)	105
Rats, vermin, etc.	37
Nuisances	283
Typhoid fever (fæces and urine samples)	71
Pollution of watercourses	4
Samples of water for chemical and bacteriological analysis	38
Evidence at police courts on behalf of local authorities	4

2. Hunter River Combined Sanitary District.

REPORT OF THE MEDICAL OFFICER OF HEALTH FOR THE YEAR ENDED 31st DECEMBER, 1937.

Staff.—Dr. J. R. Shannon, Medical Officer of Health; 1 Health Inspector, 1 Supervisory Nurse, and 1 Temporary Office Assistant.

Population.—The population of the district at the Census of 30th June, 1933, was 209,465. The estimated population at the 31st December, 1937, was 220,890 and the estimated mean population for 1937 was 219,610.

Births.—There were 3,859 live births to mothers resident in the district, equivalent to a rate of 17·57 per 1,000 of population. Of these, 1,942 were males and 1,917 females.

Ex-nuptial Births numbered 164, equivalent to a rate of ·75 per 1,000 of population per annum.

Deaths numbered 1,961, equivalent to a rate of 8·93 per 1,000 population.

Infantile Mortality.—Deaths under one year of age numbered 137, equal to a rate of 35·50 per 1,000 live births.

Stillbirths.—There were 126 stillbirths to mothers resident in the district, equal to a rate of ·57 per 1,000 of population, and representing 3·16 per cent. of all births (live and still).

INFECTIOUS DISEASES.

Details of cases of notifiable diseases are given below :—

Diphtheria.—468 cases (8 deaths) were notified in 1937, compared with 784 cases in 1936, and 510 the annual average for the preceding five years.

These figures indicate a considerable fall in the incidence of the disease as compared with 1936. Further enquiry disclosed that the decrease in incidence was chiefly in the Greater Newcastle area, where the decrease was 58 per cent as compared with a fall of 10 per cent. in the remainder of the Hunter River Combined Sanitary District. The disease was comparatively mild in type, only eight (8) deaths occurring.

Immunization by anatoxin was revived in May, 1937, when a campaign was commenced in the Newcastle City area. Though meeting with poor response in the early stages, the latter months of the year were marked by a considerable increase in the applicants for immunization. A central clinic was established at Newcastle General Hospital to cater for the children from the Greater City area. The Councils co-operating with this clinic were:—(1) Newcastle; (2) Stockton; (3) Waratah; (4) Carrington; (5) Merewether.

Schools were treated as units for the purpose of organisation, the children under school age coming along with the school children.

Separate campaigns were also organised by Cessnock, West Maitland and Lake Macquarie Councils. A summary of these activities for 1937 is given in the following table :—

Immunized at—	Co-operating Councils.	No. of Children for First Injection.
Central Clinic	City Council	500
	Waratah Council	773
	Stockton Council Carrington Council Merewether Council	747
Separate Clinics	Cessnock	671
	Lake Macquarie	246
	West Maitland	410
Total for Year		3,347

Of these, about 8 per cent. did not complete the whole course of injections. Six cases were notified as Diphtheria occurring in immunized children. Each case was investigated, but in no case did serious illness occur nor was a virulent *C. diphtheriæ* proved to be present in any of these cases.

Scarlet Fever.—Seventy-two cases, compared with 115 cases in 1936, and an annual average of 229 for the preceding five years.

The disease was of mild type, the cases occurring throughout the district.

Typhoid Fever.—Seven cases (2 deaths), compared with 8 cases in 1936, and an annual average of 13 for the preceding five years.

Each case was investigated. In one case only (M.B. who died on 10th December, 1937) was it probable that the disease arose from a source within the Hunter River Combined District. The remaining cases had undoubtedly acquired the infection while absent from this district. In the case of M.B., the probable source of infection was a mine at which her husband was employed, and at which he had probably become infected some weeks previously. Investigations at the mine disclosed an utter lack of sanitary conveniences. Amongst the men employed in the mine were several who had previously suffered from typhoid. A.B. had left work ill and had been nursed by M.B., who some weeks later died of typhoid. Though now recovered, A.B.'s blood was found to give a positive Widal reaction.

This investigation was made the preliminary to a wider enquiry, in conjunction with officers of the Mines Department, into sanitation of small mines in this area. Plans are being drawn up for a proper sanitary service to the mines in question. This survey reveals the necessity for extension of existing services to the extent of approximately 200 removals.

The incidence of typhoid in the district for the year constitutes a new low record in a rate gradually falling since 1929.

Encephalitis Lethargica.—Two cases (1 death) compared with nil in 1936.

In the case of C.C., aged 18 years, who died on 16th July, 1937, a diagnosis of encephalitis was made before death, with complete laboratory investigation. A post-mortem examination confirmed the diagnosis.

Infantile Paralysis.—Two cases, compared with 1 case in 1936.

The 2 cases notified were of mild type and occurred in December. In neither case was it possible to trace the source of infection, and neither case had been absent from the district prior to becoming ill, nor was any connection with Victorian visitors noted.

Cerebro-spinal Meningitis.—One case in 1937, compared with 1 case in 1936.

The case mentioned, H.L., was a male aged 5 months, who was admitted to hospital suffering from pneumonia and one month later developed meningeal symptoms.

Puerperal Infection.—Ten cases (1 death) in 1937, compared with 9 cases in 1936.

During 1937 in 60 per cent. of the cases notification by the attending medical practitioner was irregular. Enquiries made disclosed that very old books of notification forms are still being used by medical practitioners in many instances. These old forms do not define Puerperal Infection. The time spent and consequent expense incurred in the investigation of irregular notification suggest that it would be economic to furnish medical practitioners with amended forms, as they occur, and request that any obsolete forms that might still be in their possession be destroyed.

Pulmonary Tuberculosis.—Seventy-nine (38 deaths) in 1937, compared with 75 cases in 1936.

The Newcastle Anti-Tuberculosis Clinic reports disclose an increase of work effected. The work for 1937 is tabulated and compared with 1933 :—

Cases Attending.	1933.	1937.
(*a*) New Positive Cases	27	38
(*b*) Contacts	103	177
(*c*) Attendances	1,543	3,023
(*d*) Home Visits	98	291
(*e*) Cases Undergoing Pneumothorax Treatment	...	23
Pneumothorax Refills	...	272

Dr. Byrne reports that good progress has been shown at the Clinic. The routine examination of contacts has in several instances discovered early infections. Admission of patients to hospital for special treatment or to remove them from adverse home conditions has been greatly facilitated by the co-operation of the Newcastle Hospital staff.

Thoracoplasty was introduced for the first time at this Clinic during 1937, several patients being successfully treated.

Gold treatment was also introduced in this Clinic for the first time during the year, but it is not yet possible to assess the effect of the gold treatment on the cases selected.

Dr. Byrne adds a note of apprecitation of the assistance given by the Medical Staff of the Newcastle General Hospital.

Private Hospitals.—Number registered in Hunter River Combined Sanitary District in 1937 totalled 47, housing a total of 256 beds. During 1937 three (3) private hospitals were closed and two (2) new licenses were issued.

Inspections of private hospitals during the year totalled 125.

Registered Midwifery Nurses.—Number registered in 1937 totalled 193. The Supervisory Nurse made a total of 237 visits of inspection.

Venereal Diseases.—In tracing (female) defaulters, 17 visits were made.

Sixteen (16) persons (male) notified as defaulters from treatment were interviewed, and an effort made to persuade them to continue treatment. Frequent visits were found necessary, and in practically every case it was found necessary to call on the defaulter late in the evening or at week ends.

GREATER NEWCASTLE.

The Greater Newcastle Bill received Royal Assent on 15th December, 1937.

This Act provides for the absorption into a Greater Newcastle of the whole of the municipalities of :—

1. Adamstown.
2. Carrington.
3. Hamilton.
4. Lambton.
5. New Lambton.
6. Merewether.
7. Stockton.
8. Wallsend.
9. Waratah.
10. Wickham.
11. Newcastle.

And parts of the shires of—

1. Lake Macquarie.
2. Tarro.

With a population of about 110,000 people in the area, the Greater Newcastle Council will be composed of twenty-one aldermen, elected from seven (7) wards.

This Act also provides for :—

1. The dissolution of the Newcastle District Abattoirs Board, the functions of which Board will in future be carried out by officers of the Greater Newcastle Council.
2. The transfer by proclamation of the Governor of certain transport functions.
3. The cessation of tenure of office of the present members of the Hunter District Water and Sewerage Board on 31st December, 1937, and the election of a Board, in place thereof, of eight members, five (5) of whom will be elected by the Greater Newcastle Council.

Under the Greater Newcastle Act the relationship between the local authority and the Health Department remains unaltered as regards the supervision of health.

The amalgamation should tend towards better health administration. An example is to hand in diphtheria immunization, in which a more comprehensive campaign is now possible.

The advance towards more efficient health control is evidenced by the fact that under the new organisation trained health inspectors are now at the service of an additional 28,680 people, who previously depended on untrained local health officers. Furthermore, the trained health inspectors under the new organisation should be less hampered by unskilled duties in the performance of the work for which they were trained.

Considerable progress was made in the reclaiming of swampy and low-lying lands in the sanitary district during 1937. This reclamation work is of considerable magnitude. Some idea of the problem is given by particulars obtained from the Department of Works and Local Government in regard to Crown lands. The Department of Works and Local Government estimated that there were 140 acres of swampy Crown land in the Greater Newcastle area alone in 1937. This swamp land was situated as follows :—

South Ward, 10 acres. Mid-West Ward, 25 acres. East Ward, 105 acres.

During 1937, some 30 acres of this swamp land was reclaimed by the Department of Works and Local Government, comprising 10 acres of Carrington Swamps, and 20 acres on the banks of Throsby Creek.

Of the alienated swamp land in the Greater Newcastle area, the greater proportion is situated in the Hamilton–Merewether area. The Newcastle Council advanced considerably with the reclamation of National Park swamps, using garbage as part of the filling. Stimulated by the fact that a proclamation had been obtained over their lands, private owners contributed to this reclamation in Wickham, Smedmore, and Hamilton.

An attempt was made by the Businessmen's Club, of Newcastle, to initiate a large scale reclamation and settlement scheme at Hexham. When the scheme had been formulated, the Mayor of Newcastle, Alderman Fenton, approached the Government on the matter. The Department of Agriculture was invited to report, but found that the land was not suitable, and that as a settlement scheme it would not be financially sound.

An extract of a report of the Businessmen's Club on Hexham Swamps is as follows :—

> I have to report that the "Hexham Swamps" Sub-Committee held a further meeting on 11th inst. and considered your request that a definite suggestion be submitted to the club with regard to the above matter. As you know, Mr. Bennett's project, in brief, as put to the club, was that by reclamation and resumption of 25,000 acres of swamp and contiguous land at Hexham, an additional 1,000 farmers could be settled there. Aided by the best local advice, we have come to the decision, (1) that there is not an area of 25,000 acres that could reasonably be defined as available for the purpose, (2) that the estimate of placing 1,000 new settlers on the area was greatly excessive, (3) and that the average living area of 25 acres, as estimated by Mr. Bennett, was below what generally obtained in this district.
>
> In view of these points, we think that the project is not immediately practicable. However, we consider that a first and worthy step towards later and more ambitious schemes would be the erection of flood gates on Iron Bark Creek, a scheme fostered, if not initiated, by Mr. A. F. Hall. The probable and immediate effect would be beneficial, because an area close to an important entrance to the city, which is at present unsightly and unhealthy, would be cleared up. We recommend that your Committee press for the early construction of these gates.

This attempt is worthy of note, since it is involved in another problem that has to be solved, viz., mosquito control. A photograph is published, which indicates that quite a proportion of this Hexham Swamp will be part of Greater Newcastle. Since Newcastle is, from an epidemiological point of view, a tropical port, the question of mosquito control is a much more important undertaking than it would be in Sydney. With this in view, a settlement scheme at Hexham might be quite sound even if showing a preliminary loss from a financial point of view.

During 1937, a commencement was made on a complete and comprehensive sanitary survey of the Hunter River Combined District, but due to pressure of varied duties and limited staff, a very small section of the area was covered. With the establishment of Greater Newcastle, complaints and minor matters relating to public health referred to this Department by members of the public resident in the Greater City area are now referred to the council for attention and report to this Department. These matters are followed up by correspondence until council's report shows that the law has been complied with. This procedure will relieve this office to a small extent, and enable furtherance of a comprehensive survey.

Nightsoil Disposal.—Although a large portion of Newcastle and suburbs is sewered, a little less than half of the total population of the district resided during 1937 in unsewered parts. Thirty nightsoil removal scavenging services are conducted, an approved depot for disposal of nightsoil being provided for each service.

During 1937, frequent visits of inspection were made of the depots to assure efficient disposal of nightsoil, cleansing and maintenance of equipment. Periodical checks were made of vehicles and pans during rendering of the service.

In two instances the local authorities were directed to forthwith take necessary steps to rectify faulty rendering of the services and to renew plant provided for cleansing of equipment, and in six cases the provision of suitable cleansing plant was required. Four depots were required to be fenced and kept free of stock.

Early in January, 1937, a complaint was received to the effect that a nightsoil removal service had not been rendered for over ten days. The complaint was investigated that day, and it was found that the contractor had suddenly departed from the district. By 4 p.m. the same afternoon a new contractor had been secured, and cleaning of the village commenced.

Investigation concerning disposal of nightsoil from about thirty premises on a closely-settled portion of the district revealed that the nightsoil was being buried on park lands. Action was immediately taken by this Department, and suitable arrangements made for disposal at an approved depot.

Garbage.—Sixteen garbage removal services during 1937 operated in the larger settlements in the district, but by the establishment of Greater Newcastle, the whole of the Greater City area will be rendered this essential service. The additional population served is estimated at approximately 20,000.

Owing to the vast extent of low-lying swampy areas in the close proximity of Newcastle, disposal or garbage has been by controlled tipping. At Waratah, several swamps have been converted into parks and recreation grounds, but as land in that area suitable for reclamation was not available, the council erected a reverberatory incinerator. Towards the end of 1937 an additional furnace was built. Residue from the incinerator is now being used in the reclamation of an old quarry adjacent to the incinerator.

In the case of Newcastle, what is now known as National Park has been formed by reclaiming vast swamps with garbage.

Early in 1937 a calculation was made of the area remaining to be filled and the time the work would occupy. It was estimated that the available area would not exceed eighteen months use. A search was made for other sites to be used as a depot, but in view of the close settlement, it was considered desirable that on completion of reclamation of National Park incineration should be adopted.

Council was informed of this department's views and requested to consider without delay the question of erection of an incinerator. Soon after receipt of the departmental report tenders were called for erection of an incinerator. The incinerator is now under construction and should be completed towards the middle of 1938.

As in many instances the areas used for disposal of garbage are surrounded by close settlements, special attention has been given to the maintenance of the depots.

Two additional garbage depots were reserved during 1937, one to be used as a place for disposal of rubbish by residents, the other to be used in conjunction with a garbage scavenging service.

Septic tanks.—Opening up of new subdivisions in unsewered parts of the district and an increase in building activities has resulted in an increase in septic tank installation.

Sixteen approvals were granted during 1937. In this district persons proposing to install septic tanks invariably seek advice from this department. In every instance the site is first inspected and the applicant advised of the most suitable position so as to assure efficiency particularly in regard to effluent disposal. An inspection is made during construction of the unit and on completion. Frequently technical advice is sought by either the applicant or builder. Seventeen septic tanks in use were inspected during the year.

On the establishment of Wallaroo State Forest Camp this Department was requested to advise on a system of sanitation in relation to the Boys' Camp, Administration office, and Manager's residence. Septic tank installations were recommended in relation to the Administrative block and Manager's residence and in the case of the Boys' Camp borehole latrines were suggested. Details and layout of the scheme proposed were furnished to the Forestry Department.

Cattle Slaughtering.—Outside the area controlled by the Newcastle Abattoir Board a population of approximately 70,000 derive their meat supply from 43 privately-owned slaughter yards.

Excepting several isolated villages, the meat supply to the population served from private slaughtering establishments is subject to rigid inspection by certified meat inspectors Five meat inspectors employed by the Councils in whose area the slaughter yards are situated visit each yard in their district at, or soon after, the time of slaughter. Where slaughtering is finished prior to the arrival of the inspector, the viscera, tongue, liver and mesentry are placed in relation to the carcase.

This service is financed by slaughtering fees, such fees being sufficient to cover all expenses. The Local Authority receives no profit nor is it subject to loss.

Revenue and expenditure figures are checked from time to time and any adjustments that may be necessary are brought under notice, resulting in either a reduction or increase of fees.

This system of meat inspection has been in vogue since 1934 and, with the exception of several minor matters, no hitch has occurred.

It is claimed, however, that slaughtering without notice does exist. To avoid the tedious and even dangerous duty of establishing proof against several suspected offenders, it has been requested that the Cattle Slaughtering and Diseased Animals and Meat Act, 1902, be amended to provide for stamping of all inspected carcases and making it an offence for a butcher who trades in an area to have in his shop premises unstamped carcases or for a butcher who trades in an area which derives its meat supply from an inspectorial district to have in his shop premises carcases or parts of carcases which do not bear an indelible stamp.

In view of the importance of this phase of public health service an amendment of the Cattle Slaughtering and Diseased Animals and Meat Act, 1902, would appear desirable enabling the Board of Health to require the formation of an inspectorial district together with powers similar to those provided in the Meat Industry Act regarding sale of unstamped meat, etc.

Cattle Slaughtering and Condemnations, Kearsley and Tarro shires.

Number Slaughtered.		Condemnations Total.	Nature of the Disease or other reason for Condemnation.					
			Cattle.		Sheep.		Pigs.	
Cattle	12,212	96	Tuberculosis	80	Emaciation	10	Tuberculosis	134
Calves	3,174		Peritonitis	2	Oedema	10	Pyaemia	12
Sheep	30,121	19	Emaciation	4	Catarrhal Jaundice	3	Pleurisy and peritonitis	12
Pigs	6,313	182	Navel and joint ill	1	Putrefaction	1	Septic pneumonia	9
			Immaturity	2	Jaundice	3	Septicaemia	6
			Malignant tumour	1	Pyaemia	1	Peritonitis	1
			Extensive bruising	5			Pleurisy	1
			Pleurisy and peritonitis	1			Emaciation	1
							Pneumonia and pleurisy	6
			Total	96	Total	19	Total	182

Organs—Condemnations of—Heads (tongues), 1,808; kidneys, 2,312; hearts, 240; livers, 21,130. Total 25,490.

Slaughtering premises were inspected on an average of twice during the year but in cases where neglect is apparent, more frequent visits of inspection were made. The attention of the licensee and Council was drawn to any defects concerning structure or maintenance of the premises. Two existing slaughter yards are listed for consideration as to re-building but, as establishment of abattoirs at West Maitland is under consideration, any action contemplated is held in abeyance for the time being. Apart from minor defects the premises generally are kept in good repair and clean.

In one case several warning were given during 1936, but as no heed was taken of these warnings, the trader was prosecuted and a fine of £4 imposed.

ABATTOIRS FOR WEST MAITLAND.

For some years past West Maitland Municipal Council has from time to time considered the question of the establishment of municipal abattoirs. This matter was again brought forward in 1937 and was submitted to the department for report. A thorough and exhaustive investigation was made and the following conclusions were arrived at. The proposal to establish abattoirs to serve a comparatively small population would result in financial loss. As the meat supply is at present subject to rigid inspection at or immediately after slaughtering the financial loss was not warranted. The proposal would seriously upset meat inspection in the area outside of Maitland and might even mean the complete withdrawal of the present system.

Abattoirs situated between Maitland and Cessnock would serve the whole of the present meat inspectorial district. Such abattoirs could be controlled by a board of representatives elected from the local councils. It is suggested therefore that this latter proposal would be more serviceable.

Noxious trades.—The noxious traders in the district number, 47 pig keepers, 2 poultry farmers, 2 knackers, 33 fat extractors, 8 rag pickers.

Noxious trades are conducted in conjunction with cattle slaughtering premises in the Municipalities and Shires situated outside the area served by the Newcastle Abattoirs.

Pig keepers occupy premises on the outskirts of the suburban areas of Newcastle and West Maitland. The pig feed supply consists mainly of cafe, market and hospital food waste. In the case of Newcastle, the pig keepers are required by law to be clear of the city with their load of waste food before 9 a.m. During inspection of the piggeries, the condition of equipment used for collection and transport of food waste is checked and inspections are also made during collection.

Pig keepers who collect scrap food and putrescible matter for pig feed render a valuable service to the community by way of removal from the city at an early hour, matter of a putrescible and offensive nature, by reducing the scavanging service of the local authority and avoiding disposal by burial at council depots situated close to habitation.

During the year 1937 no case of serious disease occurred amongst the pig herds on noxious trade premises.

Inspections from time to time disclosed the necessity of improvements. Traders have been induced to carry out certain improvements which would not only assist in maintenance but would increase the efficiency of their farming.

Food.—Periodical visits to this district are made by an Inspector attached to the Pure Food Branch for the purpose of collecting samples of milk and meat and also conducting a general tour of inspection. When circumstances permit the visiting officer is accompanied by the Inspector stationed at Newcastle.

In addition to inspections made in company with the visiting officer, eighty-seven food premises were inspected.

Condemnations during 1937 comprised—

Meat	Approximate weight half-ton.
Dates	147 70-lb. cases.
Dates	30 lb. loose.
Sultanas	7 lb.
Packed food	2,275 articles.

Investigations were made concerning meat deliveries throughout the Newcastle area.
Seventy-two complaints were received and attended to.

Ninety-five miscellaneous inspections were made and where necessary the local authority was requested to cause attention to be given to appropriate recommendations. One prosecution was taken under Ordinance 39, Clause 4, Local Government Act, 1919. A fine of £1 and 10s. costs was imposed.

Unhealthy Building Land.—Approximately 250 acres of low lying swampy land considered unfit for building upon in its present state ia covered by proclamation under Section 55 of the Public Health Act. Frequent inspections were made of the respective areas and a close check made on all building activities.

During the year approximately 2 acres of land fronting Lake Macquarie and twelve allotments in Wickham area were raised to the height required by the proclamation.

Water Samples.—In connection with an investigation concerning pollution of the Hunter River nine samples of water were collected and submitted for analysis. Analysis showed pollution of the river by discharge of acid wastes. At the request of the respective firms particulars were supplied relating to the neutralising of the acid waste.

Two water samples for chemical analysis and six for microbiological examination were collected from Cessnock Municipal Baths.

Other Samples.—Following a complaint in regard to offensive smelling bedding, a sample of kapok was collected. Analysis showed the sample to be clean, and therefore, a search was made for other causes.

Health, Milk and Safety Week was celebrated by—

Physical culture and spectacular displays in the centre of the city, showground and Newcastle Beach. At each display short health talks were given. Twenty thousand copies of a 64-page booklet containing useful advice and information were distributed throughout Newcastle and suburbs, house to house distribution being undertaken by the various local authorities.

A procession was held of suitably prepared vehicles depicting the advantages of diphtheria immunisation, maternal and baby welfare, sanitation and diet, and safety in relation to health.

A number of spectacular shop window displays were arranged in the city and suburbs of Newcastle.

The organisation and conduct of the campaign was largely undertaken in a voluntary effort by officers of this Department so as not to unduly interfere with regular departmental duties. Officers of this branch spent a considerable amount of their leisure hours on this work. Valuable voluntary assistance was rendered by officers of the Departments of Education, Railways, Labour and Industry, Milk Board, Municipal and Shire Councils and many public-minded citizens and local organisations.

3. Broken Hill and District.

Report of the Medical Officer of Health, W. E. George, M.B.,Ch.M., for the year ended 31st December, 1937.

The population of Broken Hill Municipal District at 31st December, 1937, was 29,084 which represents an increase of 710 for the twelve months, and indicates the increased prosperity of the town.

The deaths for the period under review numbered 289 (males, 173: females, 116). There were 604 births for the twelve months comprising 286 males and 318 females.

Infectious Diseases.—The monthly incidence of notifiable infectious diseases was as follows :—

	Typhoid Fever.	Scarlet Fever.	Diphtheria.	Cerebro Spinal. Meningitis.	Puerperal. Infection.
January	...	1	...	...	...
February	6	4	3	...	...
March	3	12	...	...	...
April	...	29	2	...	...
May	...	24	1	...	1
June	...	9	1	...	1
July	...	6	...	...	...
August	...	10	...	1	...
September	...	17	...	...	...
October	...	11	1	...	...
November	12	11	1	...	...
December	2	8	...	...	...
Totals	23	142	9	1	2

The incidence of notifiable infectious diseases at Broken Hill during the past five years is shown in the following table :—

	1933.	1934.	1935.	1936.	1937.
Typhoid and Paratyphoid ...	8	10	11	8	23
Scarlet Fever	31	36	17	13	142
Diphtheria	27	42	9	10	9
Infantile Paralysis	...	...	...	...	...

Apart from a number of cases of scarlet fever (which were of a very mild character) there has been a particularly low incidence of all notifiable infectious diseases.

It is very doubtful whether the twelve cases of typhoid fever notified in November were, in fact, cases of that disease. These cases were all notified in a batch from the local hospital following the receipt of positive Widal reactions, but, upon investigation, most of them were not clinically cases of this disease.

The health of the city continues highly satisfactory. There were no epidemics of non-notifiable disease.

There were no industrial stoppages during the year, and the mines working previously have all continued in full production. The prosperity of the city continues and the fact that so many men are in full work has no doubt contributed to the general health of the community.

The State Laboratory has had a very busy year. The total number of examinations at the laboratory for the year was 5,815, comprising 335 biochemical tests, 4,490 bacteriological, 852 haematological and 138 pathological (tissue) investigations. In addition 295 serological specimens were sent to Sydney for examination. For the year ending 31st December, 1936, the total number of examinations was 3,793. All necessary culture media, swabs, etc., were prepared at the laboratory.

Wm. E. GEORGE,
Medical Officer of Health.

Broken Hill.

Month, 1937.	Typhoid Fever.	Scarlet Fever.	Diphtheria.	Infantile Paralysis.	Cerebro-Spinal Meningitis.	Enc.	Puerperal Infection.
January	...	1	...	...	...	...	...
February	6	4	3	...	...	...	...
March...	3	12	...	...	...	...	...
April	...	29	2	...	...	...	...
May	...	24	1	...	...	...	1
June	...	9	1	...	...	...	1
July	...	6	...	...	...	...	...
August	...	10	...	...	1	...	...
September	...	17	...	...	...	...	...
October	...	11	1	...	...	...	...
November	12	11	1	...	...	...	...
December	2	8	...	...	...	...	...
Total	23	142	9	...	1	...	2

	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	Total.
All ages	13	10	23	55	87	142	4	5	9	...	...	...	...	1	1	...	...	...	2
Under 1 year ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1–4 years	1	...	1	16	13	29	1	3	4	...	...	...	...	1	1	...	...	...	...
5–14 years	4	2	6	31	62	93	2	1	3	...	...	...	...	...	...	...	...	...	...
15–24 years	3	1	4	3	5	8	1	1	2	...	...	...	...	...	...	...	...	...	...
25–34 years	...	5	5	1	4	5	...	...	...	...	...	...	...	...	...	...	...	...	1
35–44 years	2	1	3	2	1	3	...	...	...	...	...	...	...	...	...	...	...	...	1
45–54 years	3	1	4	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...
65 and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Not stated	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...

SECTION III.

Report upon the State Hospitals under the Control of the Director-General of Public Health.

1. WATERFALL SANATORIUM.

Annual Report of the Medical Superintendent for the year ended 31st December, 1937.

Honorary Consulting Physicians.

Dr. Cecil Purser and Dr. E. W. Fairfax.

Honorary Radiologist.

Dr. A. T. Nisbet.

Resident Staff.

Medical Superintendent.—Dr. H. W. Palmer.

Senior Medical Officer.—Dr. B. A. Serjeant.

Junior Medical Officer.—Dr. A. L. Waddington.

Manager.—Mr. E. C. Barrett.

Clerk and Storekeeper.—Mr. A. Douglass.

Matron.—Miss K. Walsh; 1 Sub-matron; 33 nurses.

One Junior Clerk; 14 Male Attendants; 5 Cooks; and 11 Artisans.

A Dentist visits the Sanatorium two full days each month.

Bed Accommodation.—There are 292 beds for males and 136 beds for females. Total beds, 428.

Number of tuberculous patients dealt with during 1937, 900.

Number of patients remaining in on 1st January, 1937, 388; admitted during 1937, 512. Total under treatment, 900. Discharged during the year, 408 (arrested, 1; quiescent, 6; much improved, 106; improved, 216; stationary, 42; worse, 37; died, 93. Remaining in residence on 31st December, 1937, 399 patients (males, 267, and females, 132).

Average daily number of beds occupied, 388. Total cost of maintenance, £34,506 18s. 2d. Average annual cost per patient, £88 1s. 9d.

Condition on discharge and average residence in days of the patients discharged during 1937 are shown in the following table:—

TABLE I.

Condition on Discharge.	No. of Patients.	Average Residence in Days.
Arrested	1	1,695
Quiescent	6	944
Much Improved	106	280
Improved	216	146
Stationary	42	111
Worse	37	385
Died	93	518
Total	501	266

"Arrested," a case where no tubercle is present in sputum, and where the disease has been quiescent for two years.

"Quiescent," to have no symptoms or signs of disease, except such as are compatible with a completely healed lesion.

"Much Improved," is where the general health is good, and the signs and symptoms of tuberculosis are materially diminished, while working capacity is more or less restored.

This is the scheme for classification of tuberculous patients formulated by the New South Wales Board for the Control of the Campaign against Tuberculosis, and generally adopted.

TABLE II.—Condition of Patients on Admission and Discharge.

Condition on Admission.	Arrested.	Quiescent.	Much Improved.	Improved.	Stationary.	Worse.	Died.
L1.T1	...	...	...	...	...	...	...
L2.T1	1	...	11	10	1	...	...
L3.T1	...	4	73	155	34	17	36
L1.T2	...	...	...	...	...	...	...
L2.T2	...	1	1	...	...	...	1
L3.T2	...	...	21	40	6	17	40
L1.T3	...	...	...	...	...	...	...
L2.T3	...	...	...	...	...	...	...
L3.T3	...	1	...	11	1	3	16

L1. signifies disease limited to a part of one lung or slightly to two lobes.
L2. signifies extensive disease limited to one lobe or moderately to two lobes.
L3. signifies where there is more extensive disease than L2.
T1. is where toxic symptoms are slight, or complications not extensive.
T2. is where toxic symptoms are present but not serious, or where complications are not extensive.
T3. is where toxic symptoms are serious, or complications extensive.

This is the classification of tuberculous patients formulated by the Board of Control of the Campaign against Tuberculosis, and adopted by the various organisations.

TABLE III.—Occupations of Patients Discharged or Died during 1937.

Occupation.	Number.	Occupation.	Number.
Housewife	104	Housework	20
Labourer	89	Seamen	20
Clerk	38	Indoor Trades	17
Factory Hand	37	Transport	15
Shop Assistant	34	Farm Work	14
Mechanic	33	Professions	10
Mining	25	Other Occupations	17
Outdoor Trades	21	Children	7

TABLE IV.—Birthplace of Patients Discharged or Died during 1937.

Country.	Number.	Country.	Number.
New South Wales	300	New Zealand	12
England	65	Wales	3
Australian Commonwealth	62	Africa	2
Europe	24	Asia	2
Scotland	17	At Sea	1
Ireland	13		

TABLE V showing the Age Period at which the first symptoms of infection arose, and the number of male and female persons infected in each period, of all patients admitted since 1909. No re-admitted case is included a second time in this table.

Sex.	1 to 9 Years.	10 to 15 Years.	16 to 19 Years.	20 to 29 Years.	30 to 39 Years.	40 to 49 Years.	50 to 59 Years.	Over 59 Years.
Males	78	162	376	1,848	1,920	1,711	1,017	103
Females	80	194	444	1,373	886	410	198	55

Careful inquiry was made in every case for any history of contact infection. Among the male cases only 746 patients gave a history of infection, or 10·3 per cent., while among the female cases admitted 643 patients gave a history of infection or 17·6 per cent. For all cases admitted the percentage is 12·8 per cent.

TABLE VI showing the relative incidence of infection of male and female members of the families giving a tuberculous family history.

	Male Patients.	Female Patients.
	Per cent.	Per cent.
Mother	11·8	18·4
Father	12·0	12·8
Sister	13·8	17·7
Brother	24·8	10·3
Wife or Husband	9·2	9·3
Mother and Father	2·8	2·3
Mother, Father, Borther and Sister	2·0	1·7
Brother and Sister	4·4	2·8
Father and Brother	2·7	1·3
Mother and Brother	1·2	0·9
Mother and Sister	2·1	2·0
Father and Sister	1·3	2·3
Mother, Brother and Sister	0·4	2·5
Father, Brother and Sister	0·3	0·6
Husband or Wife and Son	1·0	0·9
Husband or Wife and Daughter	0·5	1·9
Daughter	1·6	3·4
Son	2·3	1·3
Other Infected Person	5·8	7·6

TABLE VII of Yearly Results, 1933 to 1937.

Year.	In Residence Beginning of Year.	Admitted During Year.	Arrested or Quiescent.	Much Improved.	Improved.	Not Improved.	Died.
1933	403	481	44	71	157	161	99
1934	352	555	50	150	177	124	68
1935	338	535	24	164	162	55	82
1936	252	495	17	124	220	25	107
1937	388	512	7	106	216	79	93

GENERAL REVIEW OF THE YEAR'S WORK.

The above tables show the number of patients undergoing treatment during the year 1937, and the condition of those discharged. Of the patients admitted, 120 male and 47 female patients had extensive disease with serious complications, who required full nursing attendance, but for whom no lasting benefit could be obtained. Among the men alone, 129 were over the age of 50—too old to expect much improvement.

No early stage cases were admitted, and only 11 men and 7 female cases were admitted in the secondary stage, several of these having serious complications and 2 being children.

Of young adults and children only 27 were admitted under the age of 20, and as Waterfall Sanatorium offers special advantages for these cases, it is unfortunate that more use is not made of the beds set apart for children and young adults.

Most of the 120 male cases re-admitted are old chronic cases who have been in and out of different institutions, know what to do under most circumstances, have very little active disease present, and do not require medical attention. They all have the invalid pension, and if accommodation has to be provided for these often troublesome persons, some other less expensive and not too attractive institution should make provision for them.

Although the types of cases admitted are too advanced for sanatorium treatment, all cases are treated as their condition requires, and any case suitable for pneumothorax or special treatment, receives that particular treatment. All cases are periodically examined and X-ray screened, and any possible case suitable for thoracoplasty referred to a surgeon.

Metaphen in oil is given weekly to cavity cases and solganol B in oil, mutton bird oil, halivol oil with or without bicalcium phosphate are used as routine preparations, in treatment.

Owing to difficulty in obtaining the necessary nursing staff till the end of the year, and the large number of very sick patients admitted, the work of the nursing staff has been very heavy, but all requirements have been efficiently met.

Maintenance of Buildings and Improvements.—With the improvement in the financial situation, many necessary improvements were carried out during the year. The exterior painting of all buildings was completed, a new pathological department completed, large additions made to the attendant staff quarters, fly-proof windows provided for the nurses' quarters and a base exchange softening plant installed in the laundry.

Repairs were made to the steam mangle, and to two main stairways, and considerable improvement was made in the water service reticulation.

A paint spraying equipment and electric power potato peeler were also installed.

The entrance gardens have been extended and enclosed in park rail fences, practically completing the permanent design intended. Improvements have also been effected in the cemetery.

Transport conditions have been improved by the purchase of a new Bedford motor truck.

The outdoor staff has been increased by the appointment of two additional officers, which has made possible better control of the farm and gardens. The piggery has been put under stud conditions and full records kept, with the result that returns are financially better, being £700 for the year.

The milk supply has been most satisfactory, the Berry Child Welfare Farm supplying the larger proportion of the milk used.

The patients are well supplied with various amusements, both men and women have billiard tables, wireless head phones are attached to each bed, while a bowling green is provided for the men and a croquet lawn for the women. Indoor games and library are also provided.

Concert parties frequently visit the Sanatorium, and talkie performances are generally given twice a week.

Our thanks are due to the film proprietors, the Hon. R. B. Orchard, Esq., O.B.E., the Smith Family and the visiting artists who have made these entertainments so successful.

The Patients' Committee control the patients' canteen, and most of the amusements, the funds of the canteen helping to defray the cost of the amusements.

A carpenters' shop, with machinery installed provides work for well patients, and garden plots are available for those patients interested in growing vegetables, the Sanatorium buying the produce at market rates.

In comparing this year's work with the previous twenty-eight yearly reports, one is forced to the conclusion that though considerable advancement has been made in the control of tuberculosis since 1909, much has yet to be done if success is to be attained.

Throughout New South Wales, all the different agencies working for the Control of Tuberculosis have been co-ordinated into a general scheme, which works satisfactorily under the "Board for the Control of Tuberculosis." Under this Board all the different necessary institutions have been allotted their particular duties, enabling all notified cases of tuberculosis to be classified, and to a certain extent, treated as their special circumstances require.

At present there is sufficient bed accommodation in the particular institutions, for all tuberculosis persons in the early and hopeful stages of the disease, but more accommodation is required for advanced hopeless cases, and for chronic cases who do not need sanatorium treatment. With this extra accommodation provided, it should be possible to completely classify all cases notified, and immediately provide the particular treatment each individual case requires.

Tuberculosis in the community, however, cannot be greatly controlled even if the above provision were provided. Many other problems must also be dealt with.

The most important problem undoubtedly is *early diagnosis*.

Early diagnosis has been recognised as the basal factor in all plans for the control of infection, successful treatment of the disease and its ultimate control. Notwithstanding the half century that has passed since Koch isolated the bacillus, very little progress has been made in the early diagnosis of this disease amongst the general community. The main reason is that Health Authorities have expected general practitioners to do the diagnosing. The general practitioner, even if he has the necessary experience to make a correct diagnosis, has not the time to spare on what is often a difficult problem, and experience proves that very little can be expected from the general practitioner unless he is assisted by expert medical aid.

Tuberculosis is especially a poor man's disease, and the lodge doctor generally looks after this class of people in the community. It should not be difficult to train several doctors as medical experts in the early diagnosis of tuberculosis, whose aim would be to provide expert assistance to all practitioners.

The expert would visit each medical practitioner doing lodge work and arrange how best to examine all likely persons. The medical practitioner could supply information as to suspected persons or those in indefinite ill-health, and arrange with the suspected person for the expert medical officer to thoroughly examine him, the expert officer reporting the findings to the lodge doctor. All methods of diagnosis would be used, if necessary, for it is not only essential to diagnose correctly those with the disease, but to eliminate those suspected, who are free of the disease.

After the first personal visit, it should be possible to keep in close working contact with the general practitioners, by periodic telephone communications, the medical practitioners being asked to keep a list of all likely cases coming under notice between such communications.

If diagnosis of tuberculosis is delayed the affected will sooner or later join the large number of hopeless cases such as those admitted here last year (*i.e.*, the 120 male and 47 female patients who had extensive disease with serious complications, they also will be a serious danger of infecting other persons and increasing the number of persons with the disease.

With the provision of a satisfactory method for diagnosing the disease in its earlier stages, the question of treatment becomes important. Although such treatment is available, many cases do not accept it as necessary. Often the early disease does not seriously affect the person involved, and they are unwilling to give up their work till the disease advances so rapidly that they are forced to give in, and valuable time has been lost, and chance of recovery greatly lessened. This is especially the case with the father of a family, whose family is dependent on his earnings.

If the breadwinner were granted a minimum wage while undergoing treatment, this difficulty would largely disappear, his family would be provided for, relieving him of worry, while his children would get the necessary food, so necessary for their growth, if they are to develop a resistance against the disease their father suffers from.

If some such provision is not arranged, it is only a question of time, when all these families will come under the many public charities and pension schemes, a great burden to the State, and the invalid pensioner, a danger to all around him.

At present a large proportion of chronic tuberculosis persons draw the full invalid pension, but if they work they lose their pensions. Many would prefer to earn a living if they could, but they are only capable of working for short periods at light work, insufficient to earn a living. If all incapacitated tuberculous persons were given a proportion pension, independent of what work they did, it would give each one an incentive to work, increase their self respect, and possibly make them useful citizens again.

These matters require the serious attention of both the Commonwealth and State Authorities. If tuberculosis is ever to be controlled it will be necessary to diagnose the disease early, provide immediately suitable treatment, removing as far as possible any objections thereto, and after the person has recovered provide some means whereby he may establish himself again in the community.

With the improving prosperity, it should be possible out of the large sums set apart for social services, to find the necessary funds to deal comprehensively with this serious public health question, especially when one remembers the heavy toll tuberculosis takes out of the earning capacity of the community, and the sorrow and loss of life it causes.

H. W. PALMER,

Medical Superintendent.

3.—DAVID BERRY HOSPITAL.

Berry, New South Wales.

REPORT of the Secretary for the year ended 31st December, 1937.

Administrative Staff.—Visiting Medical Officer, Dr. H. M. Hollingworth (until May); succeeded by Dr. D. H. Lewis; Matron, Miss D. G. Cawood.

Resident Staff.—Matron; Head Nurse, 2 Staff Nurses, 5 Pupil Nurses; 4 Domestic Staff; 1 Attendant, and 2 Inmate Workers.

Number of Wards and Beds.—Wards, 9; beds, 28; cots, 4.

General Cases.—Beds, 26; cots, 2. *Infectious Cases.*—Beds, 2; cots, 2.

Sir,

I have the honour to submit the Annual Report of this hospital for the year 1937.

Admissions and Discharges.—Remaining in on 1st January, 1937, 20. Admitted during 1937, 472. Births, 17. Discharged, 444. Deaths, 29. Remaining in on 31st December, 1937, 19.

In-patients.—The total number of in-patients was 509, as against 532 for 1936. Daily average 25, compared with 22 for 1936. Average annual cost per inmate, £206 11s. 9d. Total annual cost, £5,164 13s.

Out-patients.—The number of out-patients attended to was 512, as against 246 for 1936. Pupils from local schools attended the hospital for treatment under the diphtheria immunisation scheme.

Infectious Cases.—Diphtheria, 8; scarlet fever, 5; measles, 2; mumps, 4; varicella, 1.

Anæsthetics.—The total number of operations performed was 206—major, 76; minor, 130. Fifty-nine visits were made by the Nowra doctors in connection with these operations—Dr. Rodway, 18; Dr. Ryan, 26; Dr. Thompson, 20.

Collections for the year totalled £764 5s., compared with £402 9s. 11d. for 1936.

Building Operations.—During the year part of the scheme for new nurses' quarters was completed. All the old buildings were retiled.

The buildings and grounds are in good order.

A. F. HALE,
Secretary.

4.—STRICKLAND CONVALESCENT HOSPITAL FOR MEN AND WOMEN, "CARRARA," ROSE BAY.

REPORT of the Matron for the year ended 31st December, 1937.

Visiting Medical Officer.—Dr. L. R. Parker.

Resident Nursing Staff.—Matron (Miss V. K. Angus); 3 Trained and 3 Pupil Nurses; Female House Staff, 6; Attendants (male), 3.

Maintenance Officer.—Mr. D. McHarg.

Bed Accommodation.—Females, 80; males, 40; total, 120.

Admissions and Discharges.—

	Women Patients.	Men Patients.	Total.
Remaining in on 31st December, 1936	40	23	63
Admitted during 1937	857	353	1,210
Discharged during 1937	841	343	1,184
Daily average during 1937	52	27	79
Remaining in on 31st December, 1937	56	33	89

There were no deaths during the year.

Improvements carried out during 1937 included the glassing in of verandahs, repapering of rooms, reupholstering of furniture, etc.

A wooden building was erected to provide extra accommodation.

The grounds, shrubs, lawns and recreation areas were all kept in very good order.

V. K. ANGUS,
Matron.

4.—LIDCOMBE STATE HOSPITAL AND HOME.

Report of the Medical Superintendent for the year ended 31st December, 1937.

Honorary Visiting Staff.—Honorary Staff Surgeon, H. C. Rutherford Darling, M.D., M.S., F.R.C.S.; Honorary Assistant Surgeon, J. A. Lawson, M.B., Ch.M.; Honorary Ear, Nose and Throat Surgeon, H. H. Harrison, M.B., Ch.M.; Honorary Opthalmic Surgeons, Falkner J. Blaxland, M.D.; A. E. F. Chaffer, Ch.M.; Honorary Urologist, C. M. Edwards, M.B., Ch.M.; Honorary Dermatologist (position vacant); Honorary Radiographer, Colin R. Cole, M.B., Ch.M.

Staff—Administrative Staff.—Medical Superintendent, H. V. D. Baret, B.A., M.B.; Senior Medical Officer, J. McManamey, M.B., B.S.; Junior Medical Officers, C. Y. Bland, M.B.; O. W. Mater, M.B., Ch.M.; Manager, J. J. Ranshaw; Assistant Manager, J. M. Booler; Matron, Miss E. M. Copeman; Sub-matron, Miss H. P. McGregor.

Nurses, 49; Other Female Staff, 5; Attendants, 75; Other Male Staff, 41.

A Dentist visits the institution weekly, and an X-ray Technician twice a week.

Number of Wards and Dormitories and Beds Available.

Hospital Division.		General Division.		Total Accommodation.	Number of Beds.
Ward No.	Number of Beds.	Dormitory. No.	Number of Beds.		
4	27	9	48		
5	43	12	60		
6	61	21	75		
7	58	22	75		
10	70	23	75		
11	92	24	75		
14	49	25	75	Hospital Division	989
16	61	26	75		
17	61	27 (Ward)	1		
18	61	31	80	General Division	874
19	61	32	80		
20	50	33	64		
27	95	34	26		
28	102	35	25		
29	50	Emergencies (Hospitals)	6		
Infectious Division	48	Outside Locations	34		
Total............	989	...	874	...	1,863

The foregoing figures represent a total capacity of the various hospital wards and dormitories, and show accommodation for 989 patients and 874 inmates—a total of 1,863.

Admissions, Discharges, etc.

January 1st, 1937, to December 31st, 1937.

	Hospital Division.	General Division.	Infectious Division.			Grand Total.
			Male.	Female.	Total.	
In Institution on 31st December, 1936	913	779	15	14	29	1,721
Admissions	1,592	2,230	119	194	313	4,135
Transfers (from Yard and Other Sections)	377	From Hosp. 250	...	...	...	627
	2,882	3,259	134	208	342	6,483
Discharges	1,018	2,262	124	198	322	3,602
Deaths	704	3	3	2	5	712
Transfers to Other Sections ...	251	To Hosp. 376	...	...	...	627
	1,973	2,641	127	200	327	4.941
In Institution on 31st December, 1937	909	618	7	8	15	1,542

Daily Average Number during 1937.—Hospital Division, 928; General Division, 767; Infectious Division, 26; Institution, 1,721.

Casual Relief.—During the year under review 758 indigent persons were provided with sleeping accommodation for one night and 1,615 persons were supplied with a meal.

Daily Average Number of Patients and Inmates Resident during the Ten Years 1928 *to* 1937.—1928, 1,514; 1929, 1,639; 1930, 1,591; 1931, 1,563; 1932, 1,556; 1933, 1,539; 1934, 1,516; 1935, 1,562; 1936, 1,585; 1937, 1,721.

Cost of Maintenance and Treatment.—In 1937 the total cost of maintenance and treatment of patients and inmates was £95,008 12s. 2d. The average annual cost of patients and inmates was £55 4s. 1d.

Work of Honorary Medical Officers.—The various honorary surgeons and specialists continue to do excellent work. Apart from their valued advice in consultations and diagnosis, the following operations were performed by them during 1937 :—Dr. Darling, 32; Dr. Lawson, 8; Dr. Harrison, 26; Dr. Blaxland, 18; Dr. Chaffer, 9; Dr. Edwards, 67; Dr. Cole, Honorary Radiologist, paid 22 visits.

Work of the Staff.—The resident medical officers carried out 62 major and minor operations. The work of the staff generally has been maintained at the usual high standard.

X-ray Department.—This department continues to give excellent service. 1,244 cases were examined and 1,811 films were used.

Massage Department.—The massage department continues to do good work. One hundred and thirty-three individual cases received treatment, of whom 55 can be classed as recovered, 40 relieved, 25 unrelieved, 13 are still under treatment.

Infectious Division.—During the year 342 patients were treated, the great majority of cases being scarlet fever and diphtheria.

Bakehouse.—In addition to supplying the needs of this institution, bread is also supplied to Newington State Hospital and Home, and Waterfall Sanatorium. During the year 915,331 lb. of bread and cake were produced at an average cost of 1·346 pence a pound.

Laundry.—The equipment at the laundry is inadequate to meet present demands and the Public Works Department has been requested to replace out-of-date equipment with modern washing machines and hydro-extractors and other necessary equipment, including a drying tumbler.

Recreation.—First class concerts given by friends interested in the welfare of the inmates continued to be a feature of the recreation provided.

In September a " Peco " sound track projector was purchased from funds donated to the institution, and films for regular weekly programmes have been supplied gratis by various members of the Motion Picture Distributors' Association. These programmes are greatly appreciated by the inmates. The billiard room and bowling green continue to afford popular recreation. The radio installation in the various wards has been overhauled and is now giving satisfactory service.

BUILDING CONSTRUCTION, ROADS AND FOOTPATHS, ETC.

During 1937, the swag store was extended to provide additional accommodation.

Alterations and additions for conversion of Dormitory No. 9 into a medical ward were nearing completion at the end of the year.

The erection of a new dormitory block for the accommodation of dairy workers, etc., is well in hand. A recreation room was provided for the inmates of Ward 28.

Further progress was made by the Public Works Department with the construction of roads and footpaths.

DAIRY AND FARM.

During the year 88,582 gallons of milk were produced, and an average of 94 cows were in milk daily. Seventy-five tons of green feed were grown.

Gardens and Grounds.—The condition of the gardens and grounds has been well maintained. A considerable area of new ground was grassed and garden plots were extended.

Piggery.—As in previous years, weekly sales of pigs were effected, and £1,196 2s. 2d. was received from these sales. In addition pork weighing 5,585 lb. was supplied to the kitchen for the use of inmates.

Vegetable Garden.—These gardens have been a valuable asset to the institution in the provision of fresh vegetables to the kitchen. During the year vegetables appoximating 236,157 lb. were produced for hospital consumption.

5.—LIVERPOOL STATE HOSPITAL AND HOME FOR MEN.

Report of the Medical Superintendent for the year ended 31st December, 1937.

Honorary Visiting Staff.—Consulting Surgeon, B. T. Edye, F.R.C.S.; Surgeon, I. D. Miller, M.B., F.R.C.S.; Assistant Surgeons, C. H. Swanton, M.B., F.R.C.S. (on leave); A. L. Webb, M.B., F.R.C.S.; J. A. Lawson, M.B., Ch.M., F.R.A.C.S.; Anaesthetist, J. Goldman, M.B., Ch.M.; Ear, Nose and Throat Surgeon, H. J. Eizenberg, M.B., B.S.; Dermatologist, W. A. McDonald, B.A., M.B., Ch.M.; Assistant Anaesthetist, K. B. Shallard, M.B., Ch.M.

Staff.—Medical Superintendent, Donald Wallace, M.A., M.B., Ch.M.; Medical Officer, C. R. O'Brien, M.B., Ch.M.; Visiting Medical Officer, J. Pirie, L.R.C.P., L.R.C.S. (Edin.), L.F.P.S. (Glasgow); Manager, S. T. Creagh; Matron, L. W. McIntosh.

Constitution of the Hospital Staff on 31st December, 1937.—Medical Superintendent, Medical Officer, Visiting Medical Officer, Manager, Matron, Sub-matron, nurses—25, Clerks—2, Office Assistant, Storekeeper, Assistant Storekeeper, Dispenser, Male Attendants—18, other Male Staff—15, other Female Staff—1. A Dentist visits the Institution fortnightly.

Number of Wards and Beds.—Hospital Division, 11 wards containing 309 beds; General Division, 13 dormitories, containing 542 beds. Total accommodation, 851 beds.

Admissions and Discharges for the year ended 31st December, 1937.—In residence 1st January, 1937, 828; admitted during year, 2,724; discharged, 2,469; died, 291; remaining 31st December, 1937, 792; average daily number resident, 823. Total cost of maintenance and treatments of patients and inmates, £41,511 13s. 1d.; average cost per inmate, £50 8s. 9d.

Summary of Patients Treated in the various Wards during 1937.

Hospital Section.	In Hospital, 1st January, 1937.	Admitted during year.	Discharged during year.	Died during year.	In Hospital, 31st December, 1937.
Cancer Wards	59	144	86	63	54
General ,,	211	507	386	161	171
Totals	270	651	472	224	225
District Wards	22	716	625	67	46
Grand Totals	292	1,367	1,097	291	271

Out-Patients.—14,256 attendances were recorded during the year, including 3,857 dressings and operations in the district ward.

Hospital Ward.—The general hospital accommodation was fully utilised throughout the year. 513 operations were performed, 239 under general anaesthesia, 168 of which could be classed as major operations.

The work of reconditioning and remaking roads within the institution boundaries, referred to in last year's report, was completed in June, and it is pleasing to state that the roads in the grounds are now in good condition.

A number of new works, renovations and repairs were carried out, following are the details:—Laundry at Medical Officer's residence; additions to residence of Manager; weighbridge removed to suitable site; floor of Dormitory 3, strengthened; repairs effected to — roof of Out-Patients' department, walls of operating room, floors of K and L Wards, and the entrance lodges.

A new telephone switchboard was installed in the general office and extensions provided to hospital wards and other parts of the institution.

Provision of new offices for the Medical Officer and the Manager in the southern wing is in hand and will be completed at an early date.

The urgency of a proper sanitary annex for Wards E and F has been stressed, and it is hoped that the work will be put in hand at an early date.

Suitable accommodation for Cancer patients is a necessity, and the completion of a new unit will supply a long-felt want.

As the hospital is on a main highway it receives a large number of accident cases. Many of these require X-ray examination. For this reason apart from the need of an X-ray equipment for cases in the hospital the provision of an up-to-date plant is a necessity.

Recreation of Inmates.—The members of the Group branch of the Mutual Life and Citizens' Assurance Company donated an up-to-date wireless plant to the Institution.

Regular entertainments were provided by various organisations and "The Smith Family" arranged broadcast concerts from our amusement hall. This Family along with other bodies during the Christmas Season donated gifts of fruits, cakes and sweets which were distributed to the inmates.

To the various individuals and organisations referred to, the administration tenders its warmest thanks.

D. WALLACE,
Medical Superintendent.

MANAGER'S REVIEW OF OUTDOOR WORK FOR THE YEAR ENDED 31ST DECEMBER, 1937.

Notwithstanding a shortage of men available for work, satisfactory progress was made, and an area of about 12 acres was opened up for growing fodder crops.

The production in the various sections for the year was.—Dairy milk, 34,422 gallons; vegetables, 54,327 lb.; fruit, 6,475 lb.; fodder, 99 tons.

Piggery.—Revenue derived from the sale of pigs amounted to £432.

Bakery.—Bread, buns and cake required are made at the institution. The quality of these products was maintained, and the consumption was:—Bread, 257,229 lb.; buns, 250 dozen; cake, 19,125 lb.

Condition of Buildings.—Several repairs were effected by the Public Works Department, and the exterior of the main buildings were painted.

Gardens and Grounds.—The condition of these has been maintained.

S. T. CREAGH,
Manager.

6.—NEWINGTON STATE HOSPITAL AND HOME FOR WOMEN.

Annual Report for year ended 31st December, 1937.

Honorary Medical Staff.—Neurologist, Andrew Davidson, M.D.; Ophthalmic Surgeon, Grosvenor John Williams, M.B., Ch.M. (Sydney).

Staff.—Medical Superintendent, Edward J. Brooks, M.B., Ch.M.; Visiting Medical Officer, Francis H. Furnival, M.R.C.S. (Eng.), L.S.A. (Lond.); Medical Officer, Lottie Sharfstein, M.B., Ch.M.; Manager, S. J. Warner; Matron, Emily Wood; Sub-Matron, 1; Nurses, 41; Dispenser, 1; Clerk, 1; Junior Clerk, 1; Storekeeper, 1; other Female staff, 9; Male staff, 15.

A Dentist visits the Institution fortnightly.

The death of Dr. W. A. Ramsay Sharpe, M.B., F.R.C.S., who was Honorary Surgeon to this Hospital, is noted with very great regret.

Total Admissions and Discharges.—Inmates in the institution on 1st January, 1937, 577; admitted during the year, 1,125; discharged, 844; died, 248; remaining in hospital on 31st December, 1937, 610; average daily number, 605.

Total cost of maintenance and treatment of patients and inmates, £33,190 9s. 1d.; average cost per inmate £54 17s. 2d.

Hospital Division Statistics.—Beds available, 392; In hospital at 1st January, 1937, 317; admitted during the year, 698; discharged during the year, 403; died during the year, 247; remaining in hospital on 31st December, 1937, 339.

Classification of Cases Discharged.—General diseases, 183; alimentary, 56; genito-urinary, 30; osseous and arthritic, 44; nervous, 82; specif, 30; respiratory, 79; skin and glands, 60; wounds and fractures, 50; miscellaneous, 36; circulatory, 216; total, 866.

Review of Work.

Gardens and Grounds.—During the year the gardens and grounds have been maintained with efficiency, and flowers and vegetables have been made available for hospital use. The area previously occupied by the old store building has been converted into a lawn and flower garden thereby adding to the beauty of the old historical administration building. In the home section, by the building of rockeries and the planting of trees, a transformation in the area has taken place which is very welcome, and has been admired by visitors.

New Store and Dispensary.—It is pleasing to report that a new store and dispensary building has been erected and is in use. This building the need of which has been long felt, is situated in an area adjoining the laundry, and is a welcome addition.

Laundry.—A new hot water system has been provided which is of considerable advantage. The work of this section has been carried out with efficiency, and the great demands for clean linen have been met throughout the year.

Kitchen.—During the year a bread cutting machine has been installed and has proved beneficial both in the provision of cut bread to the hospital wards and dining rooms, and also in the saving of bread economically.

Radio Installation.—By the installation of wireless in the hospital wards that had previously not had this service, a long felt want has been satisfied, and all hospital sections in the institution now enjoy the benefits of wireless. This is much appreciated, especially by those who are bedridden and have been out of touch with affairs outside institution life.

Amusements.—Regular entertainments by the many friends of the inmates have been provided, and much enjoyed, and the thanks of the administration is given to them, and to the Smith Family for their untiring generosity during the year.

During the year lantern slides kindly lent by the New South Wales, Victorian, Queensland, and Tasmanian Government Tourist departments were shown to the inmates and were much appreciated.

The provision of sound films would be a great boon to the men and women of the institution and also to the nursing staff, and it is hoped in the near future the installation of this equipment will be made.

Staff Kitchen.—Plans and specifications are being prepared for the building of a new staff kitchen and dining room. The present building is inadequate for present requirements.

Sanitary Services.—By the provision of a drainage system in the land adjoining the septic tank and elsewhere, the whole of the effluent from this tank has been diverted from the river channels and allowed to filter into the cultivation areas.

Maintenance of Buildings, etc.—All the buildings have been satisfactorily maintained, and the essential services of the institution carried out efficiently.

E. J. BROOKS,
Medical Superintendent.

Dairy and Piggery.

Dairy.—During the year 35,740 gallons of milk were produced, and sales of cattle, etc., realised £134 12s. 8d.

Piggery.—The piggery buildings and yards have been thoroughly overhauled, and repaired, and the provision of wood floors in the brood pens has been completed.

During the year pigs sold realised £215 15s. 4d.

Revenue Collections.

	£	s.	d.	£	s.	d.
Farm produce, etc.	384	0	2			
Other sales	94	3	4			
				478	3	6
Maintenance—						
Collected from sundry persons	1,235	19	11			
Contribution from Commonwealth towards maintenance of pensioners	7,855	4	0			
				9,091	3	11
Total				£9,569	7	5

S. J. WARNER,
Manager.

7.—LEPER LAZARET.

REPORT ON LEPROSY IN NEW SOUTH WALES FOR THE YEAR ENDED 31ST DECEMBER, 1937.

On 1st January, 1937, sixteen (16) persons remained under detention at the Lazaret.

During 1937 three persons, one male and two females were reported to the Board under the Public Health Act, 1902, Part III, as being suspected lepers, and after careful inquiry, they were duly certified as suffering from leprosy and were admitted to the Lazaret by warrant of the Board (one of these cases died shortly after her admission).

Two cases, T.G.J.D. (case No. 180), and J.T. (case No. 185), were discharged.

Four deaths occurred during 1937, *i.e.*, W.J.P. (case No. 144), A.C.P. (case No. 136), K.O. (case No. 194), and Wong Toe (case No. 169).

The total number of persons admitted since 1883, when patients were first received (though the notification of leprosy was first made compulsory and the detention of lepers provided for by law only towards the end of 1900), is 197. Distributed under nationalities, the account stands as follows at 31st December, 1937:—

	Admitted.	Readmitted.	Discharged.	Repatriated.	Died.	Remaining in at 31 Dec., 1937.
Whites, of European descent—						
New South Wales	54	3	16	......	34	7
Victoria	3	.. ..	1	......	2	......
Queensland	5	......	3	......	2	......
Northern Territory	1	1	2	......	......	......
Western Australia	1	......	......	.....	......	1
New Zealand	1	......	......	......	1	.. ...
Fiji	2	......	1	......	1	.....
England	13	......	4	.. ...	9	......
Ireland	8	.. ...	2	......	6	... ..
Scotland	1	......	1	......	... .	......
Germany	5	.....	2 1 absconded.	1	2	.....
Belgium	1	.....	......	......	1	.. ..
U.S. America	1	......	......	.....	1	.....
Greece	2	......	......	1	1	.. ...
Malta	3	......	1 absconded.	......	1	1
Sweden	1	......	......	......	1	.....
France	1	......	......	......	1	.. ...
Mauritius	1	.. ...	1	.. ...	......	.. ..
Italy	1	... .	.....	1	.. ...	.. ...
Coloured patients—						
New South Wales	4	.. ...	1	......	2	1
West Indies	1	....	1 (in 1885).	......	......	......
India	4	.. ...	1 absconded.	1	......	....
China	58	.. ...	2	34	21	1
Straits Settlements	1	......	......	......	......	1
Java	1	......	......	......	1	......
New Caledonia	1	......	......	... ..	1	.....
Pacific Islands	18	......	... ...	6	11	1
Egypt	1	......	......	1	......	.....
Zanzibar	1	.....	1 (Hong Kong at own request).	......	......	.....
Syria	2	......	1	1	......	......
	197	4	41	46	101	13

Thus the number remaining in the lazaret on 31st December, 1937, was 13 persons; 9 males and 4 females.

Appendix A shows particulars of each case under detention since the year 1912.

Every opportunity has been offered to members of the medical profession to visit the lazaret for the purpose of seeing such patients as were formerly under their care, or for study of the disease.

The following statements show the expenditure for the year, and the sources from which it has been defrayed :—

STATEMENT showing the Working Expenses of the Lazarets (for men and for women) at Little Bay for the year 1937.

	1937.		
	£	s.	d.
Salaries	2,056	17	9
Provisions	738	12	3
Tobacco and comforts	150	6	7
Clothing	102	19	0
Fuel and light	118	6	5
Drugs, dressings, &c.	102	6	0
Miscellaneous	900	2	3
	£4,169	10	3

Deduct amounts received in respect of maintenance, £127, Nett cost, £4,042 10s. 3d.

Average number of patients resident, 15·2, being equal to an average of £265 18s. 5d. per inmate per annum in 1937.

APPENDIX A.

RETURN showing Particulars of Lepers admitted to Little Bay, New South Wales, since the year 1912.

Name.	Sex.	Native of—	Occupation.	Admission.		Where from.	No. of Case in Clinical Notes.	Died or Discharged.
				Age on	Date of.			
G.S.	Female	N.S.W.	Domestic	18	9 Feb., 1904	Lismore, N.S.W.	88	Died, 28 July, 1936.
T.A.	Male	South Sea Is.	Farmer	34	8 July, 1905	Clarence River, N.S.W.	101	
S.C.	,,	China	Cabinet-maker	40	21 May, 1912	Boolaroo, N.S.W.	128	Died, 15 Sept., 1935.
L.J.T.	,,	N.S.W.	School	12	14 Aug., ,,	Lismore	129	Discharged, 21 July, 1916.
S.M.	,,	Mallicolo	Labourer	50	27 ,, ,,	Maclean	130	Died, 23 April, 1919.
J.F.	,,	N.S.W.	Van-driver	28	19 Sept., ,,	Glebe	131	Discharged, 1 Jan., 1920 re-admitted, 7 Nov., 1927; died, 18 Mar., 1930.
W.D.	,,	,,	Fisherman	22	24 June, 1913	Ulladulla, South Coast	132	Discharged, 10 Feb., 1921.
J.M.	,,	New Hebrides	Labourer	60	28 Nov., ,,	Tweed River	133	Died, 17 Mar., 1917.
J.C.M.	,,	N.S.W.	Miner	26	28 Jan., 1914	Homeville, W. Maitland	134	Died, 17 June, 1915.
W.B.	,,	England	Dealer	33	4 Mar., ,,	Sydney	135	Died, 14 Aug., 1915.
A.C.P.	,,	N.S.W.	School	15	23 June, ,,	Lismore	136	Discharged, 12 Oct., 1922; re-admitted, 16 Jan., 1925; died, 27 August, 1937.
E.W.	,,	South Sea Is.	Labourer	50	17 Nov., ,,	Cudgen	137	Discharged, 19 Oct., 1932.
H.H.	,,	England	,,	36	19 May, 1915	Hornsby	138	Died, 7 Jan., 1924.
A.D.	Female	New Hebrides	Domestic	19	1 Sept., ,,	St. Kilda, Victoria	139	Died, 18 July, 1923.
C.F.	Male	China	Cabinet-maker	50	18 Dec., ,,	Waterloo, N.S.W.	140	Discharged, 10 Mar., 1917.
L.F.	,,	England	Showman	45	9 Mar., 1916	Campbelltown	141	Discharged, 2 June, 1917.
F.H.	,,	China	Gardener	45	25 May, ,,	Sydney	142	Died, 15 June, 1916.
D.M.	,,	N.S.W.	Publican	46	25 ,, ,,	Armidale	143	Discharged, 19 May, 1917.
W.J.P.	,,	,,	School	12	25 Nov., ,,	Lismore	144	Discharged, 5 Nov., 1924 re-admitted, 1 July, 1927; died, 11 August, 1937.
E.L.P.	,,	,,	,,	11	25 ,, ,,	,,	145	Died, 27 Dec., 1922.
E.M.	,,	Germany		56	3 April, 1917	Liverpool, N.S.W.	146	Repatriated as Prisoner of War, 27 May, 1919.
C.W.	,,	England		80	14 ,, ,,	Sydney	147	Died, 18 Feb., 1923.
C.D.	Female	N.S.W.	Domestic	54	30 Oct., ,,	Casino, N.S.W.	148	Discharged, 12 June,192)
P.P.	Male	Greece	Cafe-proprietor	33	21 Feb., 1918	Melbourne, Victoria	149	Died, 24 Feb., 1931.
J.C.	,,	Ireland	Miner	84	5 Feb., 1919		150	Died, 19 Nov., 1920.
M.T.	Female	Victoria	Housewife	63	25 ,, ,,	Sydney	150A	Died, 1 May, 1919.
J.P.	Male	Malta	Labourer	29	18 June, ,,		151	Absconded, 14 Sept., 1919.
J.S.	,,	,,	,,	30	22 Dec., ,,	Kempsey	152	Died, 29 July, 1921.
A.S.	,,	China	Gardener	64	3 Aug., 1920	Kandos, N.S.W.	153	Died, 2 Aug., 1923.
C.T.P.	,,	,,	Labourer	30	19 Oct., ,,	Nauru Is., S. Pacific	154	Discharged, 25 April, 1921;
E.T.D.	,,	N.S.W.	Teamster	32	10 Nov., ,,	Bellingen, N.S.W.	155	Discharged, 1 Dec., 1925. re-admitted, 28 Sept., 1931.
T.F.	,,	Ireland	Civil servant	57	20 Dec., ,,	Hobart, Tasmania	156	Discharged, 18 June, 1921.
A.W.	Female	Sweden	Seamstress	62	18 Feb., 1921	Newcastle	157	Died, 24 Feb., 1930.
D.A.	Male	N.S.W.	Teamster	71	26 May, ,,	Newcastle	90	Died, 16 July, 1921.
J.C.	,,	N.S.W.	Fisherman	22	18 Aug., ,,	Tilba Tilba	158	Died 6 Aug., 1934.
A.S.	Female	Queensland	Domestic	20	29 Jan., 1922	Redfern	159	Returned to Peel Island, Queensland, 20 Mar., 1922.
Y.M.B.	Male	France	Labourer	67	7 June, 1922	Hunter's Hill	160	Died, 12 Aug., 1922.
E.	,,	Ceylon	Sailor	24	13 Dec., ,,	Not fixed	161	Repatriated, 26 June, 1923.
R.B.	,,	N.S.W.	Coach-painter	42	18 June, 1923	Taree, N.S.W.	95	Died, 5 Aug., 1923.
C.E.B.	,,	Northern Terr.	Garage proprietor	35	11 Aug., 1924	Darwin, N.T.	162	Discharged, 16 Sept., 1925 Re-admitted, 7 July, 1933. Discharged, 12 Dec., 1933.
H.L.S.	,,	N.S.W.	Invalid pensioner	37	26 Oct., ,,	Liverpool Asylum	163	
J.B.	,,	Ireland	Bush worker	61	28 Jan., 1925	Liverpool	164	Died, 24 June, 1931.
A.C.	,,	Germany	Importer	45	6 Mar., ,,	Sydney	165	Absconded, 21 Aug., 1925.
K	,,	Hawaii	Musician	...	7 ,, ,,	,,	166	Repatriated, 11 Mar., 1925.
A.M.	,,	China	School	12	12 ,, ,,	,,	167	Repatriated, 16 Dec., 1925.
A.D.	,,	N.S.W.	,,	7	21 April, ,,	,,	168	Discharged, 1 Dec., 1925.
Wong Toc...	,,	China	Gardener	46	22 Nov., ,,	Clarence River	169	Died, 29 November, 1937.
H.P.	,,	N.S.W.	Farmer	39	14 Dec., ,,	Queensland	170	Discharged, 9 Sept., 1926.
G.T.	,,	Scotland	Chemist	56	8 May. 1926	Sydney	......	Discharged, 21 July, 1926.
E.S.G	Female	Queensland	Domestic	33	27 April, 1927	Hunter's Hill	171	Died, 29 Jan., 1930.
A.R.B.	Male	N.S.W.	Farm labourer	41	6 July, ,,	Croydon	172	Died, 26 Nov., 1928.
W.C.	,,	Mauritius	Sugar-worker	47	7 Feb., 1928	Queensland	173	Discharged, 4 July, 1928.
D.E.O.	Female	Queensland	Domestic	31	29 Mar., ,,	Northern Territory	174	Discharged, 15 Feb., 1932.
Ah Hoey	Male	China	Gardener	49	28 May, ,,	Liverpool	175	
P.T.I.	,,	N.S.W.	Labourer	17	9 Dec., ,,	Tweed River	176	Died, 15 Dec., 1933.
J.L.	,,	,,	,,	47	22 ,, ,,	Macksville	177	
L.M.	Female	,,	Domestic	59	14 Sept., 1929	Lismore	178	Discharged, 30 Nov., 1934.
E.W.	,,	,,	,,	33	4 Feb., 1930	Sydney	179	Died, 6 Feb., 1930.
T.G.J.D.	Male	,,	School	13	4 July, ,,	Lismore	180	Discharged, 16 April, 1937.
R.C.	,,	W. Australia	,,	12	6 Aug., ,,	Sydney	181	
L.B.	,,	Italy	Labourer	39	13 Sept., ,,	Queensland	182	Repatriated to Queensland, 15 Jan., 1931.
A.M.	Female	N.S.W.	Home-duties	19	1 April, 1931	Adamstown, N.S.W.	183	
W.L.	Male	China	Gardener	60	12 Sept., 1931	Kogarah, N.S.W.	184	Repatriated to China, 14 March, 1936.
J.T.	,,	England	Bootmaker	60	29 Jan., 1932	Queensland	185	Discharged, 24 Dec., 1937.
A.D.	,,	N.S.W.	Engine-driver	53	30 Sept., 1933	Lakemba, N.S.W.	186	
E.C.H.L.	,,	Victoria	Student	42	15 April, 1934	Manly	187	Discharged, 21 May, 1936.
A.N.	,,	Germany	Labourer	55	30 Aug., ,,	Rockhampton, Q'land	188	Repatriated to Queensland, 5 Nov., 1936.
M.E.M.G.	Female	N.S.W.	Domestic	25	11 Oct., ,,	Lawrence, Clarence R.	189	
I.D.	Female	N.S.W.	Domestic	38	29 Mar., 1936	Bankstown	190	
J.D.C.	Male	Queensland	Student	20	5 Aug., ,,	Goulburn	191	Repatriated to Queensland, 5 November, 1936.
H.P.H.	Male	Straits Settlemts.		46	22 Oct., ,,	Woollahra	192	
A.P.	Female	N.S.W.	Home-duties	71	24 June, 1937	Malabar	193	
K.O.	,,	,,	,,	30	14 Sept., ,,	Kyogle	194	Died, 22 September, 1937.
M.A.	Male	Malta	Labourer	45	12 Oct., ,,	Auburn	195	

NOTES.—(*a*) The cases of a few other persons who, for one reason or other, were never admitted to the lazaret, have been mentioned in the course of the series of Reports, and are additional to those shown in this Table. (*b*) On comparison with the reports for early years, differences in ages or dates of admission of some coloured patients will be observed. Those now given are the correct ages and dates. Patients remaining under treatment have their initials shown in *italics*.

APPENDIX A—*continued.*

Return showing admissions, discharges, &c., of Patients suffering from leprosy for the years 1920–1937.

		1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935	1936.	1937.
In Lazaret on 1st January		24	24	22	21	16	15	17	15	17	20	20	20	20	19	19	17	18	16
Admitted during the year		4	3	3	1	2	8	1	4	5	1	4	3	1	2	1	2	3	3
Died during the year		1	2	2	5	2	...	1	2	1	1	4	2	...	1	2	1	1	4
Discharged		3	1	2	...	1	4	2	...	1	...	...	...	2	1	1	...	1	2
Repatriated		...	2	...	1	...	2	...	...	...	...	...	1	...	...	...	...	3	...
Remaining in Lazaret on 31st December ...	Total	24	22	21	16	15	17	15	17	20	20	20	20	19	19	17	18	16	13
	Males	20	17	16	12	11	13	11	14	16	15	17	16	16	16	15	15	13	9
	Females	4	5	5	4	4	4	4	3	4	5	3	4	3	3	2	3	3	4

Birthplaces of Lepers.—The inmates of the Lazaret at the close of the year 1937 were of the following nationalities:—New South Wales, 7; West Australia, 1; Australian Aboriginals, 1; Straits Settlements 1; Pacific Islands, 1; China, 1; Malta, 1. Total 13.

Working Expenses of Lazaret.—During the year 1936, the nett cost of the management of this Institution was £4,042 10s. 3d. Calculated on the average number of inmates, the average cost per inmate per annum was £265 18s. 5d.

8.—STATISTICAL SUMMARY.

Table I.—Summary Statement of Expenditure, State Hospitals and Homes of Lidcombe, Liverpool, and Newington, Waterfall Sanatorium, Strickland Convalescent Hospital and Randwick Auxiliary Hospital for the year ended 31st December, 1937.

Head of Expenditure.	Lidcombe.	Liverpool.	Newington.	Waterfall Sanatorium.	Strickland Convalescent Hospital.	Randwick Auxiliary Hospital.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries and Payments in the Nature of Salary	43,409 10 0	17,009 16 2	14,899 7 0	15,023 16 0	2,126 3 1	7,536 4 1	100,004 16 4
Gratuities to Inmates	5,062 1 1	3,105 7 10	2,164 18 6	2,120 16 0	339 4 6	99 4 0	12,891 11 11
Provisions	27,061 19 7	12,265 12 2	7,190 16 3	11,080 1 4	2,086 1 7	4,139 17 11	63,824 8 10
Drugs, Dressings, Surgical Appliances, etc.	2,360 19 1	1,095 13 9	1,319 2 6	520 15 9	13 13 4	273 3 1	5,583 7 6
Fuel and Lighting	3,293 13 8	1,519 1 5	1,475 18 11	1,989 7 0	329 8 5	370 5 4	8,977 14 9
Forage	4,505 0 10	2,246 5 5	2,369 13 3	241 15 11	......	......	9,362 15 5
Materials for Minor Repairs, Additions and Renewals to Buildings and Plant	1,782 0 1	749 5 3	704 6 3	537 1 7	140 10 6	553 3 9	4,466 7 5
Transport Expenditure, including Freight and Cartage	1,584 4 6	800 6 4	671 15 6	1,865 13 9	37 8 6	41 6 8	5,000 15 3
Clothing and Drapery	6,316 5 9	1,861 13 1	2,041 16 5	697 12 4	138 13 10	91 14 6	11,147 15 11
Hardware, Ironmongery and General Stores	1,316 1 5	781 15 8	446 16 1	752 7 10	155 11 3	87 14 7	3,540 6 10
Furniture	157 11 8	43 6 10	209 11 6	......	157 11 11	91 10 5	659 12 4
Office Expenses Telephones Stationery and Printing	494 8 9	214 6 4	163 5 8	210 11 6	62 4 0	98 6 10	1,243 3 1
Livestock and Farm and Garden Requisites	167 18 9	147 11 6	60 13 0	79 15 8	2 10 10	0 9 0	458 18 9
Miscellaneous	1,523 14 4	536 6 2	731 4 10	285 2 9	68 0 11	233 7 9	3,377 16 9
Steam Services Laundry Expenses, X-Ray Fees and Cost of use Operating Theatre	......	......	......	......	65 0 5	609 5 4	674 5 9
	99,035 9 8	42,376 7 11	34,449 5 8	35,404 17 3	5,722 3 1	14,225 13 3	231,213 16 10
Add Exchange	474 8 7	304 6 2	1,236 11 11	908 0 11	191 3 3	549 4 8	3,663 15 6
	99,509 18 3	42,680 14 1	35,685 17 7	36,312 18 2	5,913 6 4	14,774 17 11	234,877 12 4
Deduct Exchange	2,415 9 8	0 7 0	1,630 13 3	......	......	......	4,046 9 11
Total	97,094 8 7	42,680 7 1	34,055 4 4	36,312 18 2	5,913 6 4	14,774 17 11	230,831 2 5
Stock on hand 31st December, 1936	6,140 18 6	3,248 2 0	3,106 3 10	2,065 15 6	474 10 5	218 10 7	15,254 0 10
Grand Total	103,235 7 1	45,928 9 1	37,161 8 2	38,378 13 8	6,387 16 9	14,993 8 6	246,085 3 3
Deduct—							
Stock on hand 31st December, 1937	6,154 17 7	3,659 1 2	3,492 15 7	1,381 3 10	485 3 2	282 11 11	15,455 13 3
Proceeds of Sales, etc.	2,071 17 4	757 14 10	478 3 6	710 2 8	0 9 1	34 6 3	4,052 13 8
Total Deductions	8,226 14 11	4,416 16 0	3,970 19 1	2,091 6 6	485 12 3	316 18 2	19,508 6 11
Total Cost	95,008 12 2	41,511 13 1	33,190 9 1	36,287 7 2	5,902 4 6	14,676 10 4	226,576 16 4
Average daily population	1,721	823	605	*516	†99	‡93	3,857
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Average Annual Cost per Inmate	55 4 1	50 8 9	54 17 2	70 6 6	59 12 4	157 16 3	58 14 11
Annual Contributions towards Maintenance	18,583 14 11	7,574 12 5	9,091 3 11	6,622 10 11	818 8 9	1,606 7 3	44,296 18 2

* Patients, 388—£93 10s. 6d.—or plus inmate workers, 128—£70 6s. 6d. † Patients, 79—£74 14s. 3d.—or plus inmate workers, 20—£59 12s. 4d.
‡ Patients, 88—£166 15s. 7d.—or plus inmate workers, 5—£157 16s. 3d.

Table II.—Statement of Expenditure, David Berry Hospital for the year ended 31st December, 1937.

Head of Expenditure.	Total.
	£ s. d
Salaries and Payments in the Nature of Salary	2,425 18 1
Gratuities to Inmates	71 0 0
Provisions	641 15 0
Drugs, Dressings, Surgical Appliances, etc.	176 19 11
Fuel and Lighting	190 6 3
Forage	0 19 11
*Materials for Minor Repairs, Additions and Renewals to Buildings and Plant	1,068 9 8
Transport Expenditure including Freight and Cartage	131 3 6
Postal and Telegraphic Expenses	13 8 6
Medical Fees	240 9 0
Burial Fees	36 17 6
General Expenses	193 9 9
Total	5,190 17 1
Add—Stock on hand 31st December, 1936	81 6 1
Grand Total	5,272 3 2
Deduct—Stock on hand 31st December, 1937	107 10 2
Total Cost	£5,164 13 0

Average daily Population	25
Average Annual Cost	£206 11 9
Average Contributions towards Maintenance	£731 7 6

Note.—The above statement does not include capital expenditure on buildings amounting to £1,666 0s. 4d.
* Includes £1,000 expended on renewal of roof.

SECTION IV.

Report of the Principal Microbiologist for the year ended 31st December, 1937.

STAFF.

Principal Microbiologist.—Ernest Leslie Morgan, M.B., Ch.M.

Assistant Microbiologists.—Elsie J. Dalyell, O.B.E., M.B., Ch.M.; Stanley M. King, L.R.C.P., M.R.C.S. (on leave from November for six months); Karen Helms, M.B., Ch.M.; K. H. Grieve, M.C., M.B.; Elizabeth Frances Lois Laurie, B.A., B.Sc., M.B., B.S., 1933 (temporary).

Senior Laboratory Assistant.—John O. Sergeant; 1st and 2nd Laboratory Assistants; 8 Laboratory Assistants and 4 Laboratory Attendants.

Clerical.—Shorthand-writer and typist, 1; office assistant, 1; telephone attendant, 1; temporary messenger, 1.

Sir,

I have the honour to submit the following summarised report dealing with the work performed in the Microbiological Laboratory during 1937.

The amount of revenue collected from examinations, sale of sera, etc., was—£928.

The volume of work for the year as represented by the number of specimens examined is set out below.

	1936.	1937.
General Laboratory Examinations	88,043	84,399
Examination of rats for plague	4,225	4,514
	92,268	88,913

Diphtheria.—In 1937, 9,181 swabbings were examined as compared with 15,340 in 1936, showing a decrease of 6,159 in 1937.

The number of tests for toxicity increased from 369 in 1936 to 569 in 1937, an increase of 200.

Typhoid Fever.—The incidence of typhoid fever in New South Wales still remains low, consequently there is little variation in the number of examinations carried out in connection with this disease.

Gonorrhoea.—There has been an increase of 2,510 in the number of smears examined for gonococci, due to the expansion of the venereal diseases clinic for men.

Malaria.—Examinations were made of three slides for malaria but were negative.

Anthrax.—During the year thirteen specimens of pus were examined. *B. anthracis* was recovered in three of the cultures.

One shaving brush was examined but *B. anthracis* was not recovered.

Tetanus.—A case of post-operative tetanus was reported by the Government Medical Officer on the 15th November.

An operation for salpingectomy and appendicectomy was carried out on the 3rd November, and symptoms of tetanus appeared on the 10th, the patient dying on the 14th November.

Tetanus bacilli were not recovered from cultures from the operation wounds.

Catgut which had been sterilized by an iodine process was used during the operation, and five spools which had been used during the operation were available for examination.

A sporing bacillus was recovered from cultures of one of the spools, but no organisms were grown from the other four spools.

Serology.—The number of serological tests carried out in connection with the diagnosis and treatment of venereal diseases was 41,076, compared with 40,612 in 1936.

The increase in the attendances at the various venereal diseases clinics was responsible for the rise in the number of serology tests and smears examined for gonococci.

Bio-chemical Investigations.—Following the removal of the Prince Henry Hospital from the control of the Health Department, the Hospital Laboratory has gradually undertaken examinations of many of the specimens that were formerly submitted to the Microbiological Laboratory. This particularly applies to bio-chemistry and largely accounts for the reduction in the bio-chemical figures as compared with 1936.

The recent establishment of laboratories at several suburban hospitals also influences these figures.

Undulent Fever.—During the year fourteen examinations were carried out, but only one case of infection due to *Brucella Abortus* was reported. This was a patient of Dr. W. S. Harding, Wahroonga Sanitarium. The following notes were sent with the specimen :—" Male, aged 72, recurrent fever, cycle 5 to 10 days, fever rises to 101 and is associated with headache and malaise."

Milk Samples Submitted by the Milk Board.—There was a considerable increase in the number of milk examinations made during 1937 as compared with 1936. This increase occurred both in the milk samples examined for *Tubercle bacilli* and for *B. abortus*—687 in 1936 and 768 in 1937—and in milk samples submitted for bacterial counts—649 and 822 respectively.

Of the 768 milk samples examined for *Tubercle bacilli*, 14 or 1·87 per cent. were positive; *B. abortus* was present in 65 of the 768 samples.

Randwick Auxiliary (Tuberculosis) Hospital.—During the year 878 specimens were received from the Randwick Auxiliary Hospital. In former years these specimens were examined at the Prince Henry Hospital. The question of increasing the laboratory work for the Randwick Auxiliary Hospital has been raised, but is dependent on the making available of increased staff and accommodation.

Need for Additional Staff and Accommodation.—As previously pointed out the room available in the Microbiological Laboratory no longer permits further expansion. Requests by the Milk Board and Randwick Auxiliary Hospital for additional work can only be met satisfactorily when additional staff and accommodation are made available.

E. L. MORGAN,
Principal Microbiologist.

TABLE showing the Routine Examinations made for the Various Branches of the State Department of Public Health, other Government Departments, Subsidised Hospitals, etc.

	Number of Examinations. (Comparative Statement).	
	1936.	1937.
Department of Public Health—		
Head Office Submissions	20,906	25,327
*Prince Henry (formerly Coast) Hospital	3,923	....
David Berry Hospital, Berry	171	111
Lady Edeline Hospital for Babies	....	....
Lidcombe State Hospital and Home	4,975	3,554
Liverpool State Hospital and Home	707	833
Newington State Hospital and Home	542	379
Waterfall Sanatorium	12	9
Medical Officer of Health, Metropolitan District	51	34
,, ,, ,, Hunter River District	4	32
Randwick Auxiliary (Tuberculosis) Hospital	....	878
Commonwealth Government	312	157
State Departments—		
Agriculture and Stock Department	....	....
Education Department	122	48
Child Welfare	4	....
Government Stores Department	22	....
Milk Board	1,336	1,590
Police Department	54	68
Prisons Department (Long Bay Gaol, etc.)	217	278
Public Works Department	6	5
Railways and Tramways Department	1	6
State Insurance Office	1	....
Water Conservation Commission	1	....
Hospitals Commission	1	....
Silicosis Commission	....	....
Aborigines' Protection Board	....	4
Water, Sewerage and Drainage Board	....	39
Private Practitioners	18,897	16,316
Public Hospitals and Institutions other than State Hospitals	35,631	34,503
Municipal and Shire Councils	147	228
	88,043	84,399
Total Examinations—		
General	88,043	84,399
Rats for Plague	4,225	4,514
Total	92,268	88,913

* Examinations counted with Public Hospitals.

IN the following Statement the Routine Work is divided into sections to disclose the purposes for which the various examinations were made.

	Number of Examinations. (Comparative Statement.)	
	1936.	1937.
A.—*Microbiological Examinations.*		
1. Of Materials from Diseased Persons and Animals—		
Actinomycosis	5	19
Brucella abortus	10	14
Diphtheria (swabbings)	15,340	9,181
,, (toxicity)	369	569
Dysentery	4	47
Gonorrhœa (smears and urine)	17,288	19,798
,, (complement deviation test)	3,824	4,218
Hæmolytic streptococci	62	87
Hydatids (sputa, smears, etc.)	44	12
,, (complement deviation test)	58	55
Leprosy (human)	22	52
Malaria	9	3
Meningitis	89	91
Syphilis (Wassermann reactions)	18,687	18,673
,, (Kahn's flocculation test)	18,101	18,086
,, (spirochætes)	88	99
Tetanus	1	4
Tinea	26	20
Tuberculosis	2,906	3,577
Typhoid (Widal reactions)	266	224
,, (urine, fæces)	240	279
,, (miscellaneous, water, milk, etc.)	5	44
Unclassified : " No growths " from pus, etc.	1,212	1,097
Typhus	10	3
Vincent's Angina	62	39
Hookworm	1	2
Rat Leprosy	3	9
	78,732	76,302

Division of Routine Work, etc.—*continued.*

	Number of Examinations. (Comparative Statement.)			
	1936.		1937.	
Brought forward		78,732		76,302
A.—*Microbiological Examinations*—continued.				
2. Examinations for Anthrax—				
Human beings	3		13	
Shaving brushes, etc.	1		1	
Wool	1		...	
		5		
3. Of Materials, etc.—				
Chemical closet contents	...		...	
Disinfectants	51		55	
Feathers, flock	10		9	
Sewage, effluents, etc.	1		...	
Soil	5		...	
Water	74		159	
Water from swimming baths	217		234	
		358		471
4. Examination of Foods for Bacterial Contamination—				
Dried Milk	2		...	
Milk—				
Milk samples submitted by the Milk Board for examination for tubercle bacilli and B. abortus	687		768	
Milk samples for bacteriological count submitted by the Milk Board	649		822	
Miscellaneous milks for bacterial counts, etc.	20		13	
		1,358		
5. Examinations for Food Poisoning	5		13	
		5		1,616
B.—*Pathological Examinations.*				
1. Of Animals—				
Mammals	2		1	
Fish	...		...	
		2		1
2. Of Body Fluids—				
Blood for full and differential count	1,136		1,025	
,, ,, blood typing	...		1	
,, —coagulation time	11		5	
Chemical Examinations—				
Blood for sugar	239		131	
,, ,, ,, tolerance	45		45	
,, ,, urea	748		222	
,, ,, ,, creatinin	26		7	
Urine for sugar (quantitative)	34		15	
,, ,, urea	253		153	
Test meal specimens	761		476	
Calculus	27		16	
Miscellaneous	302		157	
Fæces	40		51	
Urine (general examinations)	1,024		968	
		4,646		3,272
3. Of Tissues—				
Malignant tumours	587		489	
Tubercular	24		34	
Other conditions	1,553		1,534	
		2,164		2,057
C.—*Examination of Parasites.*				
Ecto-parasites (fleas, ticks, etc.)	1		2	
Endo-parasites (round and flat worms)	10		1	
Protozoa	29		9	
Insects (including flies and mosquitoes) and spiders	4		3	
		44		15
D.—*Medico-Legal Examinations.*				
Examination of Exhibits for—				
Blood stains	16		14	
Gonococci	...		5	
Seminal stains	27		28	
Spermatozoa	29		26	
Other examinations	7		2	
Poison tests	...		...	
		79		75
E.—*Examination of Specimens for Preparation of Vaccines.*				
Preparation of Autogenous Vaccines from sputa, urine, acne pustules, boils, wounds and other septic conditions	650		590	
		650		590
Total		88,043		84,399

THE following table indicates the Number of Rats and Mice Destroyed and Examined at Sydney and Newcastle during year ended 31st December, 1937.

Month.	Sydney.				Newcastle.			
	R. R. Rattus.	*Rattus Norvegicus.*	*M. Musculus.*	Total.	*R. R. Rattus.*	*Rattus Norvegicus.*	*M. Musculus.*	Total.
January	129	28	5	162	6	...	...	6
February	178	108	13	299	5	...	...	5
March	179	88	9	276	6	2	...	8
April	275	84	30	389	5	4	...	9
May	232	80	27	339	13	...	...	13
June	285	103	11	399	4	...	...	4
July	288	160	39	487	3	12	...	15
August	303	147	19	469	1	1	...	2
September	356	79	27	462	6	...	...	6
October	315	53	13	381	4	1	...	5
November	389	51	39	479	9	2	...	11
December	191	46	46	283	3	2	...	5
	3,120	1,027	278	4,425	65	24	...	89

[2 graphs.]

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